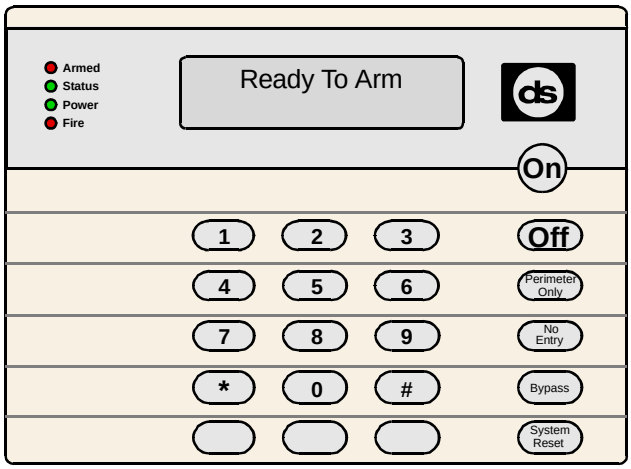
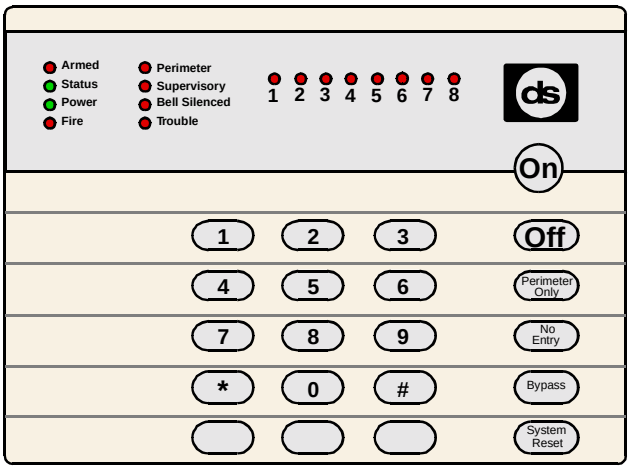
Reference Guide for the DS7080iP-32 Two Partition Control/Communicator



DS7447



DS7445

Keypad Quick Reference Guide

Turning On (Arming) your System

Normal Arming	[PIN] + [On]
Perimeter Arming, no entry delay	[PIN] + [No Entry] [Perimeter Only]
Perimeter Arming, with entry delay	[PIN] + [Perimeter Only]
Maximum Security Arming	[PIN] + [No Entry] [On]
Custom Arming	[PIN] + [#] [4]
Force Arming	[PIN] + [Arming Sequence] + [Bypass]
Set Delayed Arming	[PIN] + [#] [9] [9]
Delay Auto Arm by 15 Minutes	[PIN] + [OFF]
Zone Bypass	[PIN] + [Bypass] + [2-digit Zone number]
Change Partitions	[PIN] + [#] [#]

Turning Off (Disarming) your System

[PIN] + [Off]

Commands for other System Features

Chime Mode	[PIN] + [#] [7]
Zone Test	[PIN] + [#] [8] [1]
Event History Readback	[PIN] + [#] [8] [9]
Battery Test	[PIN] + [System Reset]
Communicator Test	[PIN] + [#] [8] [2]
Fire Reset	[PIN] + [System Reset]
Fire Trouble	[PIN] + [Off] to silence, [PIN] + [System Reset] to clear
Remote Program Dial-out	[PIN] + [#] [8] [3]
Remote Program Answer	[PIN] + [#] [8] [6]
Local Battery/Sounder Test	[PIN] + [#] [8] [5]
Error Display	[PIN] + [#] [8] [7]
Error Display Reset	[PIN] + [System Reset]
Clear Zone Bypass	[PIN] + [Bypass] [*] to clear

Access Control

[Access Control PIN] + [Off]

For additional information on system commands, see the DS7080iP-32 User's Guide P/N 39425

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1.0 Specifications

1.1 Enclosure Housing

The standard enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5 in. Wide, by 14.5 in. High, by 3 in. Deep (31.8 cm W x 36.8 cm H x 7.6 cm D). A keyed lock is included, and this enclosure has a provision for an optional tamper switch (required for Commercial Burglary applications) for monitoring the door.

1.2 Temperature

- Storage and Operating Temperature: +32° to +120°F (0° to +49°C)

1.3 Power

- Input power: 16.5 VAC, 40 VA, 60 Hz.
- Auxiliary regulated power: 11.8 -12.5 VDC, 1.0 A. *(200mA for UL Listed Systems. 1.0 A not investigated by UL.)*
- Optional Standby battery (P334): 12 V, 7.0 AH
- Control panel current draw: 150 mA

1.3.1 Accessory Power

- DS7443 keypad current draw: 45 mA, Standby & Alarm
- DS7445 keypad current draw: 75 mA, Standby & Alarm
- DS7447 keypad current draw: 100 mA, Standby & Alarm
- DS7488 Octal Relay 10 mA for the module plus 40 mA for each energized relay
- EX8 Expansion Module: 35 mA, Standby & Alarm

NOTE The total current for all auxiliary devices, including keypads and smoke detectors = 1.2 A standby and alarm.

1.4 Outputs

- Alarm Output: Normally Closed, 1.0 Amp contact connected to auxiliary power. Can be programmed for steady or pulsed output.
- Programmable Output 1*: Solid state current sink (1 A max.). *(200mA for UL Listed Systems. 1 A not investigated by UL.)* Can be used for alarm, arming state, or access control.** This output is generally programmable.
- Programmable Output 2*: Solid state voltage source (500 mA max.). *(200mA for UL Listed Systems. 500mA not investigated by UL.)* This is the smoke power reset for Zone 1 when it is used as afire zone for 2-wire smoke detectors. Can be used for alarm, armingstate, or access control.**

* = Current draw should be subtracted from either maximum auxiliary or maximum alarm current draw.

** = Not investigated to the requirements of UL294.

1.5 Zones

- 1 or 2 Partitions. Zones may be assigned to one or both partitions. Zones assigned to both partitions become common zones.
- 8 zones, plus 1 trouble zone on the main control board. The trouble zone cannot be assigned to a partition.
- 24 Expansion zones using EX8 Zone Expansion Module. Each EX8 adds 8 additional zones. Up to three EX8 modules can be added to the system.
- On Board Zone Response Time: 300 milliseconds.

1.6 Keypads

1.6.1 DS7443 Keypad

- Total number of keypads: 4 Keypads
- Maximum wire length each run: 400 feet (122m)
- Maximum wire length total: 1600 feet (488m) in system
- Wire type: 4 conductor, unshielded, #22 AWG (0.8mm) or 18 AWG (1.0mm) "Telephone quad".

NOTE Only one DS7443 is allowed per cable. Each DS7443 must have a “home run” back to the DS7080iP-32. Do not “daisy chain” or place two DS7443 keypads on any cable run.

1.6.2 DS7445/DS7447 Keypads

- Total number of keypads: 4 Keypads
- Maximum wire length each run: 1000 feet (305m)
- Maximum wire length total: 4000 feet (1220m) in system
- Wire type: 4 conductor, unshielded, #22 AWG (0.8mm) or 18 AWG (1.0mm) "Telephone quad".

NOTE If using #22 AWG (0.8mm) wiring, there can be no more than two keypads allowed on any 1000 foot (305m) run. Three keypads are allowed on any 1000 foot (305m) run if #18 AWG (1.0mm) wire is used. Keypad wiring can be “daisy-chained” or “home-run,” but the cables can NOT be shared with other devices (e.g. telephone or siren wiring). The DS7488 and EX-8 can only be “home-run.”

1.7 Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2, BFSK, Contact ID, High Speed 4/9, and Pager formats.

The ringer equivalence is 0.1B

1.8 Users

The system allows up to 24 individual users. Each user will have his own PIN number (the 4- or 6-digit code entered at the keypads) and his own authority level (to determine which functions he may perform).

1.9 Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

1.10 Burglar/Fire Zone Inputs

- Number of circuits 8 Circuits
- End-of-line resistor 2.21k ohms

1.11 Fire Signal Initiating Circuit (2-wire mode)

The Fire circuit (zone 1) will work with 2- or 4-wire detectors. It has an optional alarm verification.

- Number of 2-wire circuits: 1 circuit, compatibility identifier A
- Type of circuit: Class B, latching
- End-of-Line resistor: 2.21k ohms
- Supervisory current: 5 mA
- Maximum current for alarm: 13 mA
- Maximum short circuit current: 25 mA
- Maximum line resistance: 65 ohms
- Circuit voltage range: 8.5 to 14.0 VDC
- Maximum detectors per zone: 20 detectors (2-wire)
- Total detector standby current: 2.5 mA

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1.12 Standby Current Load

- Battery AH - (20% Storage + 0.375 AH's Alarm)
- The following table is the derated battery divided by hours minus the control standby (150 mA):

Rechargeable Battery Size	Derated	Max. Standby for 4 hours	Max. Standby for 8 hours	Max. Standby for 24 hours	Max. Standby for 48 hours	Max. Standby for 60 hours
4 AH	2.825 AH	590 mA	230 mA	X	X	X
7 AH	5.225 AH	1.0 A	530 mA	100 mA	X	X
8 AH	6.025 AH	1.0 A	640 mA	130 mA	X	X
14 AH	10.825 AH	1.0 A	1.0 A	330 mA	X	X
15 AH	11.625 AH	1.0 A	1.0 A	360 mA	120 mA	X
17.2 AH	13.385 AH	1.0 A	1.0 A	440 mA	160 mA	100 mA

2.0 Enclosure Installation

The DS7080iP-32 control/communicator and the enclosure are shipped together. The control, however, still needs to be installed into the enclosure. Hardware for mounting the enclosure to a wall, and the control to the enclosure is located in its own hardware pack.

2.1 Install the Enclosure

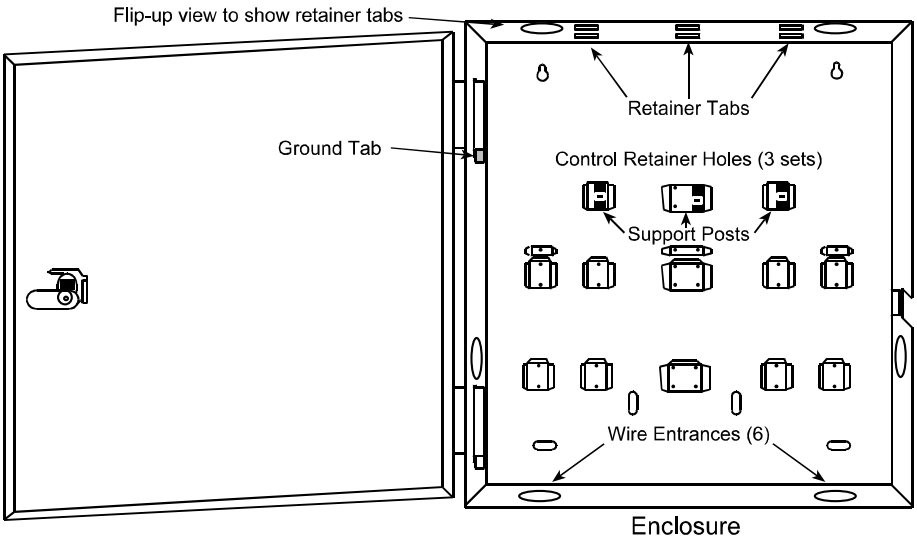
- Use the enclosure as a template and mark the top mounting holes on the mounting surface.
- Pre-start the mounting screws for these two holes. Slide the enclosure onto these mounting screws so that the screws move up into the thinner section of the holes. Tighten the screws.
- Screw in the remaining two screws in either set of bottom mounting holes.
- Knock out the desired wire entrances on the enclosure.
- Use knock out bushings if conduit is not used.

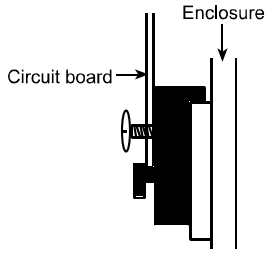
2.2 Install the Control/Communicator

The control is static sensitive. Make sure you touch earth ground before handling the control. This will discharge any static electricity in your body. Example: Run the ground wire to the enclosure before handling the control. Then keep holding the ground wire while installing the control.

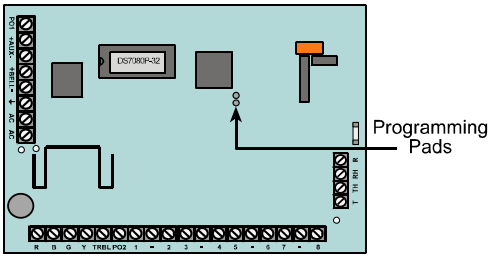
- Insert the three support posts into the control retainer holes as shown in the diagram.
- Slide the top of the control into the retainer tabs (the slots under the top frame).
- Once in the retainer tabs, the control will rest on the three support posts.
- Secure the bottom of the enclosure by screwing the bottom three holes through the support posts and through to the control retainer holes.

Once the control is installed, be sure to connect its ground wire to the top hinge of the enclosure (the unpainted tab).





Support Post Assembly (side view)



DS7080iP-32 Control/Communicator

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3.0 Control Terminal Wiring

WARNING

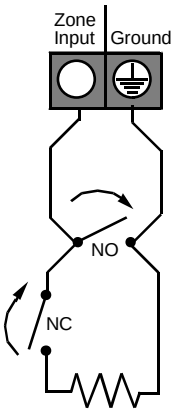
Before servicing this equipment, remove all power including the transformer and battery. Also remove the phone line connection.

This System is Power Limited except for the Battery terminals. All wiring entering this enclosure must be Power Limited.

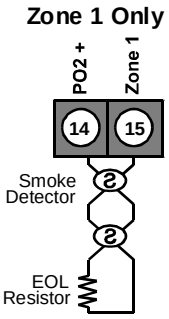
CAUTION: Incorrect connections may result in damage to the unit.

CAUTION: An appropriate two pole disconnect device must be installed by qualified service personnel, as part of the building installation.

TYPICAL BURGLAR AND FIRE WIRING

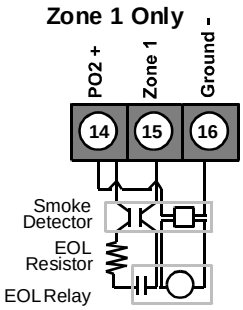


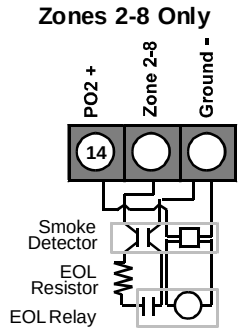
Typical burglar alarm loop wiring



Typical 2-wire smoke detector wiring

(for a list of compatible 2-wire smoke detectors, see Technical Service Note P/N 41150)



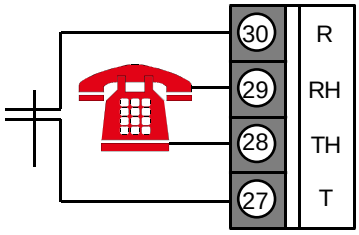


Typical 4-wire smoke detector wiring. For example: Detection System's DS250 in an MB4W base.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

1	PO1	**PO1:** Shorts to Auxiliary (-) when activated. Can sink up to 1 A. Programmed in Address 009.
2 3	+ AUX –	**AUXILIARY POWER:** Provides 12 VDC, special application, up to 1 A for powering detectors.
4 5	+ Bell –	**ALARM OUTPUT:** Provides 12 VDC, special application, up to 1 A for powering bells, siren drivers, etc. Function programmed in address 009.
6	⏚	**EARTH GROUND:** Connected to a good earth ground and to the cabinet cover.
7 8	AC AC	**AC INPUT:** Use a listed Class 2,16.5 VAC 40 VA transformer Model D1640 requires 60 Hz unswitched dedicated outlet - do not share.



IMPORTANT

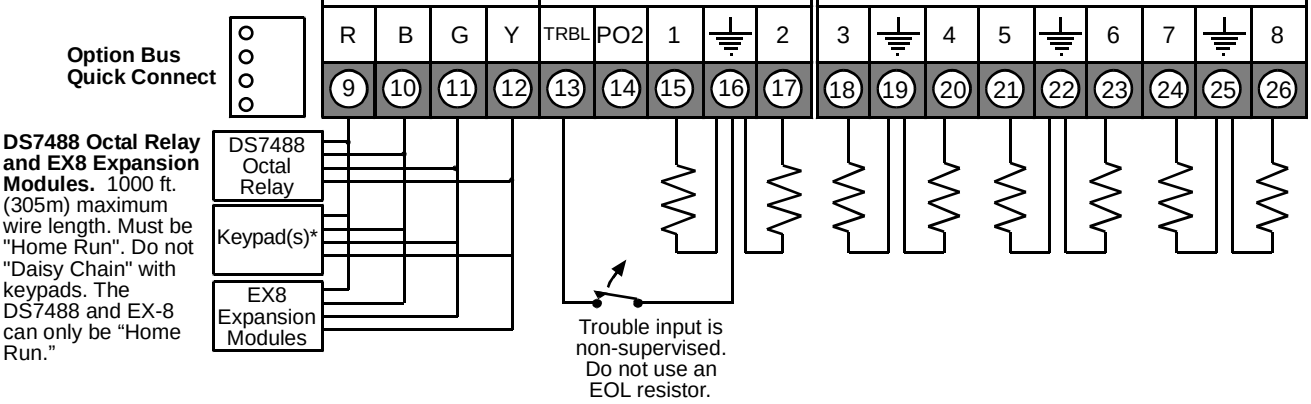
Shared cable is not allowed for keypad expansion modules, telephone, or siren wiring. Do not use shielded or twisted pair cable.

KEYPAD*: Up to 4 keypads may be used.

TRBL: Trouble Input. For the connection of any accessory that provides a dry contact trouble output.

PO2: PO2 supplies 12-12.5 v and up to 500 mA when activated. PO2 function programmed in address 009.

ZONES 1-8: Zones 1-8 are for connection of NO or NC alarm contacts. These zones require a 2.21K ohm resistor (P/N 25899) at the end of the loop. Power is momentarily removed after a [PIN] [System Reset] during a fire verification. Only zone 1 may be used for compatible 2-wire smoke detectors (up to 20). Zone programming is done in address 034 for zones 1-8.



DS7488 Octal Relay and EX8 Expansion Modules. 1000 ft. (305m) maximum wire length. Must be "Home Run". Do not "Daisy Chain" with keypads. The DS7488 and EX-8 can only be "Home Run."

***= Maximum Wire length each.
DS7443: 400 ft. (122m) maximum wire length. Total in system: 1600 ft. (488M). Each keypad must be a "home run". Do not "daisy chain" keypads.

DS7445/DS7447: 1000ft. (305m) maximum wire length. Total in system: 4000ft. (1220m). Keypads may be "home run" or "daisy chained". Maximum of 2 keypads per run for #22 AWG (.8mm) or 3 keypads for 18 AWG (1.0mm).

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4.0 System Worksheet

Account Number _____ Information

Name _____ Contact Person _____

Address _____ Voice Phone Number _____

_____ Panel Phone Number _____

City, State, Zip _____ Panel Answers Phone |__| Armed |__| Disarmed

Equipment Location and Notes

AC Voltage _____ VAC Battery Voltage _____VDC AUX Current _____mA

Control Panel _____

Transformer _____

Telephone Jack _____

Telephone On Same Line as Panel _____

Earth Ground Connection _____

Alarm Sounder (s) _____

Misc. Notes

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4.0 System Worksheet (continued)

Personal Identification Number Information

Example

	PIN Number	Authority Level	Partition	Name
User 002	1001	6	2	Henry M. Jones

	PIN Number	Authority Level	Partition	Name		PIN Number	Authority Level	Partition	Name
User 001					User 013				
User 002					User 014				
User 003					User 015				
User 004					User 016				
User 005					User 017				
User 006					User 018				
User 007					User 019				
User 008					User 020				
User 009					User 021				
User 010					User 022				
User 011					User 023				
User 012					User 024				

Keypad Location

Location	Location
Keypad # 1 _____	Keypad # 3 _____
Keypad # 2 _____	Keypad # 4 _____

Zone Location and Notes

Example

	Device	Location	Partition	Type
Zone 1	PIR	Kitchen	2	Invisible Alarm, Alarm on Short, Alarm on Open, 24-Hour

	Device	Location	Partition	Type		Device	Location	Partition	Type
Trouble Zone					Zone 17				
Zone 1					Zone 18				
Zone 2					Zone 19				
Zone 3					Zone 20				
Zone 4					Zone 21				
Zone 5					Zone 22				
Zone 6					Zone 23				
Zone 7					Zone 24				
Zone 8					Zone 25				
Zone 9					Zone 26				
Zone 10					Zone 27				
Zone 11					Zone 28				
Zone 12					Zone 29				
Zone 13					Zone 30				
Zone 14					Zone 31				
Zone 15					Zone 32				
Zone 16									

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5.0 System Overview

- **Description:** The DS7080iP-32 Control/Communicator is a fully integrated hard-wire security and residential fire alarm system.
  - It can support up to 8 input zones, two partitions, 24 individual users, and multiple output options.
  - Up to 4 keypads may be used to provide user interface with the system, as well as programming access for the installer.
- **Zone:** A zone is an input to the DS7080iP-32 Control/Communicator. There are 8 hard-wired zones on the main circuit board.
- **Zone 1:** This zone can be programmed as a Fire or Burglar zone. It is the only zone capable of supplying power to 2-wire smoke detectors.
  - When programmed as a Burglar zone, an alarm results on an open or short when the control panel is armed.
  - If trouble is programmed, a trouble report is generated, and the zone is considered "Not Ready" only when the zone is disarmed.
  - For Fire zone operation, see the Fire zone description in the Glossary.
- **Zones 2 - 32:** These zones can be programmed as Fire or Burglar zones.
  - When programmed as a Burglar zone, an alarm results on an open or short when the control panel is armed.
  - If trouble is programmed, a trouble report is generated, and the zone is considered "Not Ready" only when the zone is disarmed.
  - For Fire zone operation, see the Fire zone description in the Glossary.
- **Cross-Zoning:** Each on-board zone (zones 1-8) may be cross-zoned with any or all of the other on-board zones. You cannot cross-zone with the expansion module (EX8) zones.

When a pair of zones (A and B OR B and A) are cross-zoned, an alarm condition is not generated unless:

1) Both A and B are in alarm simultaneously, or
2) B is in alarm within N seconds of the clearing of A or A is in alarm within N seconds of the clearing of B, where N is the time programmed in address 006. This allows for a one-way trip pattern.

If two zones are cross-zoned to each other (A with B AND B with A) an alarm condition is not only generated by conditions 1 and 2 above, but also if:

3) A is in alarm within N seconds of the clearing of B. This allows for a two-way trip pattern.

NOTE An alarm condition will be generated any time the above criteria is met.

- Zone overlap required. Each zone shall have the ability to individually protect the intended area (i.e. motion detector patterns overlap).
- The following zone types ***can*** be cross-zoned:
  - Perimeter Instant (1)
  - 24 Hour (2)
  - Interior Home/Away (6)
  - Interior Instant (7)
  - Day Monitor (8)
  - Interior Delay (D)
  - Perimeter Homeguard (E)
- The following zone types ***cannot*** be cross-zoned:
  - Disabled (0)
  - Entry/Exit Delay #1 (3)
  - Entry/Exit Delay #2 (4)
  - Interior Entry/Exit Follower (5)
  - Keyswitch Toggle (9)
  - Keyswitch On/Off(A)
  - Fire Zone with Verification (B)
  - Fire Zone without verification (C)
  - Perimeter Follower Homeguard (F)

4) Cross-zoning across partitions is not supported.
5) Cross-zoning with different zone types is not supported.
6) If the trip window is 000, the cross-zone time will be the duration of the arm cycle of the crossed non-24 hour zones. 24 hour zones will have a 24 hour duration.

- **Trouble Zone (TRBL):** This non-supervised (requires no End Of Line resistor) zone is intended for the use of simple tamper devices. If tripped, this zone will generate a Control Trouble/System Fault. This trouble will clear when the Trouble Zone loop is un-faulted.
  - Trouble Zone is disabled by default.
  - Trouble Zone has two modes of operation: Normally Open and Normally Closed.
- **EX8 Expansion Module**: Up to three (3) EX8 Expansion Modules (24 additional zones) may be added to the system. They must be set for Option Bus Addresses 101, 102 and 103 respectively (see the EX8 Installation Guide P/N 39565 for module addresses). It is important that each module be set with a different address. Failure to do so will result in improper communications with the EX8 modules and the zones associated with them.
- **DS7488 Octal Relay**: If installed, the optional DS7488 Octal Relay will provide fixed outputs for predetermined panel conditions. The DS7488 Octal Relay attaches to the keypad bus and must be set for Option Bus Address 9.

NOTE Octal relay outputs will not operate during the first two minutes after powering up the control panel.

The fixed outputs are:

- **Output 1 - Zone Alarm**: Follows any zone alarm (except Silent and Invisible zones). Remains On until the zone restores, the bell cutoff time expires or [PIN] + [Off] is entered.
- **Output 2 - Zone Trouble**: Follows any zone trouble. Latches ON when any zone is in an abnormal condition.
- **Output 3 - System Reset**: Activates for 8 seconds when the [PIN] + [System Reset] command is entered at any keypad.
- **Output 4 - Panic/Duress**: Latches ON when the Panic (C) key is pressed for 2 seconds on any keypad or when a Duress Code is entered into any keypad. The relay is released when the command [PIN] + [Off] is entered at any keypad.
- **Output 5 - System Trouble**: This relay is ON when a system trouble has occurred. Releases when the system trouble is cleared.
- **Output 6 - Low Battery**: The relay is ON during a Low Battery condition.
- **Output 7 - Partial Arm**: In a non-partitioned system the relay is ON when the system is partially armed (Force Arm, Perimeter Arm or zones bypassed). In a partitioned system, the relay is ON when any partition is partially armed. The relay is reset when the system (or partition) is disarmed or is fully armed.
- **Output 8 - Armed**: In a non-partitioned system the relay is ON when the system is armed to any level. In a partitioned system, the relay is ON when both partitions are armed to any level. The relay is reset when the system or any partition is disarmed.

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6.0 Glossary

6.1 Zone Programming

- **Invisible Alarms:** This is a zone programmed not to have an alarm output or an alarm display (except when arming) at any keypad when activated. Invisible Alarm zones are recommended for holdup alarms. An alarm signal will be sent, but the keypad display will not indicate an alarm while this zone is violated.
- **Silent Alarms:** This is a zone programmed to activate the visual display at the keypad, but not audible signals.
  - If this zone is also an entry zone, an entry tone will sound when this zone is activated.
- **Bypassing Allowed:** This zone can be bypassed (shunted). This is done using the bypass command ([PIN] + [Bypass] + [2-Digit Zone Number]) or the force arming sequence ([PIN] + [Arming Sequence] + [Bypass]).
- **Alarm on Short:** This zone will activate an alarm when its loop is shorted.
- **Alarm on Open:** This zone will activate an alarm when its loop is opened.
- **Trouble on Open:** This is a zone programmed to activate a trouble when its loop is opened and the system is disarmed.
  - If the system is armed, this zone will activate an alarm if shorted or opened.
  - For 24-hour zones, regardless of the arming state of the panel, this always remains as a Trouble on Open.
- **Trouble on Short:** Works like Trouble on Open, but activates a trouble when shorted and disarmed.
- **Perimeter Instant:** This is a zone programmed to activate an alarm even during the entry/exit delay period.
- **24-Hour Zone:** This is a zone programmed to activate when its loop is faulted, even if the system is disarmed.
- **Entry/Exit Delay #1:** This zone is ignored during the entry/exit delay period.
  - If it is violated while the system is armed, it will activate a delay for the amount of time programmed in Entry Delay Time #1. The keypad pre-alert sounders will activate and the system may be disarmed during this delay period.
  - If the system is not disarmed during the entry period, this zone will activate an alarm.
  - If, at the end of an Exit delay, an entry/exit delay zone is faulted, an exit error condition will activate.
  - The Entry delay will begin as above and any outputs programmed to follow burglar alarms will activate.
  - If the system is not disarmed during this delay period, the control panel will send an alarm report and an exit error report.
  - If the system is disarmed during this delay period, the alarm outputs will deactivate and no alarm report will be sent.
- **Entry/Exit Delay #2:** Works in the same manner as the Entry/Exit Delay #1 zone, except that it uses Entry Delay Time #2.

NOTE If both Entry/Exit delays have been activated, the control will use the shorter delay.

- **Interior Entry/Exit Follower:** This is a zone programmed to be ignored during an entry/exit delay and then become an interior instant zone.
  - If this zone is violated while the system is armed and no entry/exit zones have been violated, it will activate an instant alarm.
  - If this zone is violated after an entry/exit delay zone is violated, it will follow that entry/exit delay time.
  - This zone is bypassed when arming only the perimeter.
- **Interior Home/Away:** This zone becomes an active interior entry/exit follower when the system is armed and an entry/exit delay zone is violated during the exit delay time.
  - If the system is armed and an entry/exit delay zone is not violated, this zone will be bypassed.
  - This zone is bypassed when arming only the perimeter.
- **Interior Instant:** This is an instant zone that does not use entry delays. This zone is bypassed when arming only the perimeter.
- **Day Monitor:** This is a perimeter instant zone that activates alarm outputs when the system is armed, but only activates the keypad sounders when the system is disarmed.
  - When the system is disarmed, any violation of this zone will activate the keypad sounders which will sound continuously until a disarming command is entered. The alarm outputs will not operate. A trouble report (if programmed) will be sent to the central station.
  - A day monitor violation will be recorded in the alarm history.
- **Keyswitch Input:** This zone allows the system to be armed or disarmed using a Normally Open momentary keyswitch (toggle mode) or an on/off switch wired across the keyswitch zone.
  - In toggle mode, each time the keyswitch input is shorted, the arming state of the control panel will toggle.
  - In the on/off mode, the control panel will arm when the zone is shorted and will disarm when the zone is supervised.
  - May be programmed to allow force arming.
  - In the on/off mode, may be bypassed for keypad arming.
  - Keyswitch zones should be programmed for trouble on open.
  - If the keyswitch zone circuit is cut, a zone trouble and an alarm (if armed) will be generated on this zone. Alarm output for this zone is fixed at on steady.
  - An output should be used for an LED to indicate armed/disarmed status and for a sounder to indicate entry/exit delays.
- **Fire Zone:** This zone causes a fire alarm when activated, whether the system is armed or disarmed.
  - It can be silenced (but not reset) by entering a valid [PIN with disarming privileges] + [Off].
  - A fire alarm will be displayed on all keypads.
  - A fire reset command [PIN] + [System Reset] must be entered after silencing the alarm to re-enable this zone. It is important to not use the panel during the 8 second reset period.
  - If a fire alarm is not reset within 24 hours of the alarm being silenced, “Fire Alarm…Not Reset” will appear on the display with the keypad beeping every 10 seconds.
  - If this zone is programmed for trouble and the loop opens, the keypads will indicate a “Fire Trouble” for this zone and the keypad sounders will beep once every ten seconds.
  - If the system is a combination fire and burglar alarm, the fire alarm has priority over the burglar alarm.
- **Fire Zone with Verification:** This zone is identical to a fire zone except that after the first alarm, it will perform a fire reset and then wait up to two minutes for a second alarm.
  - If a second alarm occurs within this two minute period, the system will instantly signal a fire alarm.
  - If there is no second alarm within this two minute period, the control panel will reset back to its normal condition.

NOTE Use of this control’s alarm verification feature may not be permitted in your area. Check local codes.

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- **Interior Delay:** This interior zone follows Entry Delay Time #1.
- **Perimeter Homeguard:** This zone type is active when the panel is armed. When the panel is armed perimeter only, this is a delayed zone. When armed full, this is an instant zone. The Perimeter Homeguard follows Entry Delay Time #1.
- **Perimeter Follower Homeguard:** These zones are always delayed when the panel is armed in the perimeter only mode. When the panel is fully armed, these zones are delayed if a delayed zone is violated first, or instant if this zone or an instant zone is violated first. The Perimeter Follower Homeguard follows Entry Delay Time #1.

6.2 Output Programming

- **Latch ON Any Burglar Alarm:** This is an output programmed to activate upon any zone alarm (including invisible and silent zones). It will latch until the system has been disarmed.
- **ON during Entry Pre-Alert:** This is an output programmed to activate when an entry/exit zone is violated while the system is armed. It will remain activated until the system is disarmed, or until the entry delay time has expired.
- **On for 8 seconds after [PIN] + [System Reset] is entered:** This is an output programmed to activate only for 8 seconds after [PIN] + [System Reset] is entered at a keypad or if a fire zone with verification activates.
  - This output is intended to be used to power 4-wire smoke detectors or any other device that requires a power interruption to reset an alarm condition.

NOTE When Programmable Output 2 is programmed this way, it will normally supply auxiliary power and will turn OFF for 8 seconds when [PIN] + [System Reset] is entered.

- **ON when System is Armed:** This is an output programmed to activate when the entire system is armed. If the system is partitioned, both partitions must be armed to get this output. It will remain activated until the system (or one of the partitions) is disarmed.
- **Ground Start:** This is an output programmed to activate for 3 seconds when the phone line is seized. It is intended for use with ground start phone systems that require a momentary short to ground to obtain a dial tone.
  - Connect a separate 12 VDC, DPDT relay. Connect both relay commons to ground, and connect the Normally Open contact of each to Terminals 27 and 30 (one to Terminal 27, one to Terminal 30) of the DS7080iP-32.
  - Not to be used in UL Listed systems.
  - Not for use with phone line monitors.
- **System Status (ready to arm):** This is an output programmed to follow the Status Light of the keypad. It will activate when the system is ready to arm with no zones violated.
- **Burglar Zone:** This is an output programmed to activate when a Burgular Zone is in an alarm condition. It will remain activated until the system is disarmed or the bell cut-off time expires.
  - This output is intended to activate bells and sirens.
  - This will not activate from Silent or Invisible zones.
- **Burglar Zone Delayed by 20 seconds:** This is an output programmed to wait 20 seconds after the zone enters an alarm condition to activate. It will remain activated until the system is disarmed or the bell cut-off time expires.
  - This output is intended to activate alarm bells and sirens, but provides a delay to allow the user to silence the system before it activates.
- **Fire Zone:** This is an output programmed to activate when a Fire Zone is in an alarm condition. It will remain activated until the system is disarmed, reset or the bell cut-off time expires.
- **Fire Zone Delayed by 20 seconds:** This is an output programmed to wait 20 seconds after the zone enters an alarm condition to activate. It will remain activated until the system is disarmed, reset or the bell cut-off time expires.

NOTE This Feature may not be allowed in your area. Check your local codes.

- **Keypad Sounder Output:** This is an output programmed to follow the keypad sounder. It activates during the entry pre-alert, chime mode and during any day monitor alarm.
  - It does not follow momentary keypad beeps such as keystrokes.
- **Access Output:** This is an output programmed to activate for 10 seconds when an access control [PIN] + [Off] is entered at the keypad.
  - Not UL Listed for Access Control (UL294).
- **Pulsing Fire Zone:** This is an output programmed to pulse for a fire alarm (one second ON, one second OFF).
- **California March Time:** This is an output programmed to pulse for a fire alarm in the California Time cadence (ten 1/2 second pulses, followed by one second of quiet time).
- **Temporal:** This is an output programmed to pulse for a fire alarm in the Temporal cadence (three 1/2 second pulses, followed by one second of quiet time).

6.3 General Control Programming

- **Normal Arming - [PIN] + [On]:** This command arms the entire system while allowing for entry/exit delays. It appears in the history as level 1.
- **Perimeter Instant Arming - [PIN] + [No Entry] + [Perimeter Only]:** If programmed, this command arms only the perimeter of the system and does not allow entry delays for entry/exit zones. It appears in the history as level 2.
- **Perimeter Arming - [PIN] + [Perimeter Only]:** If programmed, this command arms only the perimeter of the system while allowing for entry/exit delays. It appears in the history as level 3.
- **Custom Arming - [PIN] + [#] [4]:** If programmed, this command allows custom arming of the system and bypasses specified zones. Users with authority to two partitions cannot custom arm a single partition. It appears in the history as level 4.
- **Maximum Security Arming - [PIN] + [No Entry] [On]:** If programmed, this command arms the entire system and does not allow entry delays for entry/exit zones. It appears in the history as level 5.
- **Level 6 Arming:** This is the report left in the history buffer that shows that the system has been force armed. It appears in the history as level 6.
- **Closing Ring-Back:** If programmed, the keypad sounders and Bell will activate for 2 seconds after the system is armed and the closing report is successfully sent. This requires Closing Ring-Back and Closing Report to be programmed.
  - If a closing report is not programmed, the control will test for a dial tone when the system is armed. If the test passes, the system will arm normally. If the test fails, the system will arm, but will indicate a trouble condition.
  - This can also be used to perform a Bell test upon Arming.

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- **Siren on Comm. Failure for Silent Zone:** If programmed, a silent zone will sound the alarm outputs if the zone is in an alarm condition and the system fails to communicate with the central station.
- **Restore when Sounders Silence:** If programmed, a zone sends a restoral report and is ready to activate again only after the burglary bell cut-off time expires or the bells are silenced.
  - The zone can alarm multiple times per armed period.
  - Fire zones always restore when the system is reset, regardless of this selection.
- **Restore when Zone Restores:** If programmed, a zone sends a restoral report and is ready to activate again as soon as it physically restores.
  - The zone can alarm multiple times per armed period.
  - Fire zones always restore when the system is reset, regardless of this selection.
- **Restore when System is Disarmed:** If programmed, a zone sends a restoral report when the system is disarmed.
  - The zone can only alarm once per armed period.
  - Fire zones always restore when the system is reset, regardless of this selection.
- **Allow Swinger Shunts:** If programmed, a zone can only alarm or trouble up to three times per armed period. After the third alarm or trouble, the zone will be bypassed and a bypass report for this zone will be sent. Fire zones and 24 hour zones cannot be bypassed in this way.

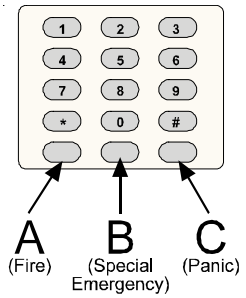
6.4 Keypad Assignment Programming

- **Keypad Assignment:** The keypad type (LED or Alpha) and its number (1-4) must be programmed.
  - Program Address 007 programs the keypads.
  - Data digit 1-4 of Program Address 007 programs keypads 1-4.
  - Any keypad has access to any partition.
- **Keypad Language:** The system can display keypad information in English, French or Spanish. See Program Address 008.

6.5 EX8 Expansion Module Programming

- Program Address 001 enables the EX8 modules.
- Module 1 is fixed at Option Bus Address 101 and makes zones 9 through 16 available to the system.
- Modules 2 and 3 are fixed at Option Bus Addresses 102 and 103. They make zones 17 through 24 and 25 through 32 available to the system.
- Refer to the EX8 Installation Guide (P/N 39565) to configure a module's address.
- Module 1 must be enabled before Module 2 can be used. Similarly, Module 2 must be enabled before Module 3 can be used.
- Be sure to set each module with a different address. Failure to do so will result in improper communication between the EX8 and the panel.

6.6 Emergency Key Programming



- **Fire Key (A Key):** The emergency key at the bottom left of the keypad entry area is the Fire Key. If programmed, the key will activate a fire alarm when pressed for 2 seconds.
  - It may be programmed for a steady or pulsed alarm.
- **Special Emergency Key (B Key):** The emergency key at the bottom center of the keypad entry area is the Emergency Key. If programmed, the key will activate a supplementary or an auxiliary type alarm when pressed for 2 seconds.
  - It may be programmed for a silent, steady, or pulsed alarm.
- **Panic Key (C Key):** The emergency key at the bottom right of the keypad entry area is the Panic Key. If programmed, the key will activate a panic alarm when pressed for 2 seconds; nothing will display at the keypad to indicate an alarm.
  - It may be programmed for a silent, steady, or pulsed alarm.

NOTE These keys are not intended to substitute for Listed manual pull boxes.

6.7 Custom Arming Programming

- **Custom Arming - [PIN] [#] [4]:** If programmed, the [4] key may be used to custom arm the system by arming only certain zones. Users with authority to two partitions cannot custom arm a single partition.
  - Example: All Interior zones plus some Perimeter zones may be bypassed while leaving some of the perimeter armed.

6.8 Report Control Programming

- **Open and Close Reports:** If programmed, these reports are sent whenever the system is armed or disarmed.
- **Send Bypass at Close for Bypassed Zones:** If programmed, a bypass report will be sent for each zone bypassed when the system is armed.
- **Alternate between both Phone Numbers:** If programmed, open and close reports will be sent to Phone #1 first. If Phone #1 does not pick-up, the control panel will alternate to Phone #2. If Phone #2 does not pick-up, the control panel will alternate back to Phone #1. It will alternate between both phone numbers until successful.

6.9 Day Monitor Report Control

Day monitor zones can be programmed to send a trouble report if they are activated while the system is disarmed.

Programming the Day Monitor zone for "Trouble on Open" and programming the Day Monitor Report Control to send troubles will cause a report to be sent each time the Day Monitor zone is activated when the system is disarmed. The zone will cause an alarm when activated when the system is armed.

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6.10 Phone Number General Control Programming

- **Enable Remote Programmer Callback:** If programmed, when the remote programmer tries to initiate a session with the panel, the panel will hang up and call the remote programmer phone number.
  - This ensures the correct remote programmer is initiating the call.
- **Dial Pulse on all Phone Numbers:** If programmed, the panel will dial to phone number 1, 2, and the remote programmer phone number 3 using the pulse format.
- **Dial Tone on all Phone Numbers:** If programmed, the panel will dial to phone number 1, 2, and the remote programmer phone number 3 using the tone format.

NOTE When dialing through PBX systems, program the phone control as tone dial only.

- **Switch to Pulse:** If programmed, the control panel will try to dial the first digit in tone dial and check to see if the dial tone has been broken. If it has not been broken, it will try to dial again using pulse dial.

NOTE Do not use this setting for PBX systems.

- **Dialer Delay:** A Dialer Delay of 15 seconds can be added when reporting burglar alarms, 24-hour burglar alarms, and fire alarms.
  - This delay will help to prevent false alarm reports by giving the user 15 seconds to disarm the system before a report is sent.

6.11 Phone Answering Programming

- **Phone Answering Programming:** The control panel can be programmed to answer the phone after a selected number of rings for remote programming access. It can also be programmed to answer the phone after a different number of rings when in armed or disarmed states. This feature can also be used to call the panel location and determine its arming state.
- **Answering Machine Bypass:** This feature allows the control panel to answer incoming calls when answering machines are used.
  - If the line rings, stops ringing, then rings again within one minute, the panel will seize the phone line on the first ring.
  - To disable this feature, program the control panel to answer on an even number of rings.

6.12 System Timers

- **Entry and Exit Delay Timers** are programmed in 5 second increments up to 250 seconds.
  - Example: To obtain an exit delay time of 45 seconds, the program address must be programmed as 0 4 5.
- **Bell Cut-off Timers** are programmed from 0 to 99 minutes.
  - Programming a Bell Cut-off timer for 0 minutes will result in no time-out for that output.
  - If the output is activated, it will remain activated until it is silenced from a keypad.
- **Automatic Test Reports** may be set any time of day and for any day of the week.
  - The time that this report is sent is programmed in real time (military time, see Address 024 and Address 025).

6.13 Force Arming Programming

- **Force Arming:** If programmed, allows violated zones to be force armed.
  - When force arming, the user must enter the usual arming command followed by the [Bypass] key. This automatically bypasses zones that are violated and programmed as bypassable.
  - Fire zones, keyswitch zones, and non-bypassable zones can not be force armed.
  - Not available in UL Listed systems.

6.14 Report Programming

- **Reports:** For pulse formats, reports are programmed by entering data in the reporting (left) and extended (right) digits. The report will send the data programmed for each event. For SIA and Contact ID, the report formats are fixed and may be activated by placing a 1 in the (left) reporting digit.
  - To disable a report, enter a 0 in the reporting digit.
    Exception: In Pager Format, 0 may be a valid reporting digit. See Section 11.2 Pager Format.
  - To send the Man Number along with Open and Close reports, program an "F" (enter [*] [5]) in the extended digit.
- **Zone Alarm:** An alarm report is sent when a zone alarm occurs. Program this report for any zones you wish to send an alarm report for. For local zones (no reports), do not program an alarm report. The zone number will automatically be sent for this report in SIA or Contact ID format.
- **Zone Alarm Restoral:** This report is sent when the zone alarm is cleared. The zone number will automatically be sent for this report in SIA or Contact ID format.
- **Zone Bypass:** This report is sent when a zone bypass occurs. A report for a non-24 hour zone is sent at arming with the close report. For a 24 hour zone, the bypass report is sent when the zone is manually bypassed. When the zone is force bypassed the bypass report is sent with the partial close report. When a zone is custom armed a bypass report for a 24 hour and non-24 hour zone is sent.
- **Zone Bypass Restoral:** This report is sent when the bypassed zone is restored. A bypass restoral report for a non-24 hour zone is sent when the zone physically restores. For a 24 hour zone the bypass restoral report is sent when the zone is manually restored. When a force-armed zone is restored a zone restoral report is sent. When a zone that was custom armed is restored and disarmed the bypass restoral report is sent for 24 and non-24 hour zones.
- **Zone Trouble:** This report is sent when a zone trouble condition occurs. The zone number will automatically be sent for this report in SIA or Contact ID format.
- **Zone Trouble Restoral:** This report is sent when the zone trouble condition is cleared. The zone number will automatically be sent for this report in SIA or Contact ID format.
- **Keypad Fire Alarm:** This report is sent when a fire alarm has been activated using the “A” emergency key.
- **Keypad Fire Restoral:** This report is sent when a keypad fire alarm has been restored using the [System Reset] command.
- **Keypad Emergency Alarm:** This report is sent when an emergency alarm has been activated using the “B” emergency key.
- **Keypad Panic:** This report is sent when an emergency alarm has been activated using the “C” emergency key.

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- **Open:** This report is sent when the system has been disarmed. In SIA or Contact ID formats, the user number for the person who disarmed the system will be sent with this report. To send the user number along with an Open report in other formats, program the extended digit of the report as *5. The Open report will only be sent if a Close report was sent previously.
- **Close:** This report is sent when the system has been armed. In SIA or Contact ID formats, the user number for the person who armed the system will be sent with this report. To send the user number along with a Close report in other formats, program the extended digit of the report as *5.
- **Duress:** This report is sent when the system is disarmed using a duress code. The user number will not be sent along with this report.
- **Partial Close:** This report is sent when the system is armed partially, or force armed.
- **First Open After Alarm:** This report is sent when the system is disarmed after a burglar alarm has occurred.
- **Low Battery:** This report is sent when a low battery condition occurs.
- **Low Battery Restoral:** This report is sent when a low battery condition restores.
- **AC Failure:** This report is sent after an AC failure condition occurs. AC failure reports will either be sent along with other reports or when the AC Fail Timer (Address 026) runs out. The AC power loss report can be programmed to delay for up to 255 minutes.
  - If another report is sent during this delay period, the AC fail report will be sent along with this report.
  - If the AC power restores during the delay period, the AC Failure report will not be sent.
- **AC Failure Restoral:** This report is sent when an AC failure condition restores. This report can be programmed to delay up to 255 minutes.
- **Automatic Comm. Test:** This report is sent at the predetermined check-in time.
- **Manual Comm. Test:** This report is sent at any time using a keypad command sequence of [PIN] + [#] [8] [2].
- **Remote Programming Successful:** This report is sent after a Remote Program session, if the session was terminated properly.
- **Remote Programming Unsuccessful:** This report is sent after a Remote Program session, if some error has occurred or the session did not terminate properly.
- **Local Programming Successful:** This report is sent when local programmer's mode is exited and there is no error associated with the programming.
- **Local Programming Unsuccessful:** This report is sent when local programmer's mode is exited and there has been some error associated with the programming.
- **System Trouble:** This report is sent when a control trouble condition occurs.
- **System Trouble Restoral:** This report is sent when all system trouble conditions restore.
- **Exit Error:** This report is sent if an exit error occurs. An exit error occurs when an entry/exit zone is still violated at the end of the exit delay. If this happens, the entry delay will begin. If the system is not disarmed before the entry delay expires, an alarm report for the affected zone will be sent and the Exit Error report will be sent. If the Exit Error report is enabled then the Bell Output will go on to warn the departing user.
- **Recent Closing:** This report is sent, along with any alarm reports, when there is an alarm within the first five minutes after the system has been armed.
- **System Test:** This report is sent when a system test has been started using the [#] [8] [1] key sequence.
- **System Test Restoral:** This report is sent when the system test ([#] [8] [1]) has been completed or has timed-out.
- **Point Expansion Module Missing:** This report is sent when one of the Point Expansion Modules (EX8) has either stopped responding or has been disconnected from the system.
- **Point Expansion Module Missing Restoral:** This report is sent when a missing Point Expansion Module (EX8) has either started responding or has been reconnected to the system.
- **Point Expansion Module Tamper:** This report is sent when a Point Expansion Module (EX8) experiences a tamper condition (e.g. the cover is opened).
- **Point Expansion Module Tamper Restoral:** This report is sent when a Point Expansion Module (EX8) tamper condition has been cleared.
- **Point Expansion Module Fault:** This report is sent when a device connected to a Point Expansion Module (EX8) Auxiliary Output terminal has drawn too much current. The Module will automatically shut off the output and attempt to turn it back on every minute until it restores. If this fault occurs, it is recommended that the device be disconnected immediately.
- **Point Expansion Module Fault Restoral:** This report is sent when a device connected to a Point Expansion Module (EX8) Auxiliary Output terminal has stopped drawing too much current or has been disconnected. The module will reset the fault automaitcally within one minute once the device is disconnected.
- **Octal Relay and Control:** This report is sent when the Octal Relay Module (DS7488) has either stopped responding or has been disconnected from the system. A restoral report is sent when the module has either started responding or has been reconnected to the system.

6.15 Event History Readback Control

The control can store up to 100 history events by time and date. These 100 events will be retained even upon the loss of power.

- The events stored in history are determined at Program Address 027.
- You may select to store or not to store: burglar, fire, and keypad alarms; zone troubles and restorals; system troubles and restorals; opens and closes; bypasses; and program accesses.

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6.16 FCC Compliance Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

6.17 FCC Phone Connection Notice To Users

This control complies with Part 68 of the FCC rules.

On the inside of the enclosure is a label that contains, among other information, the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your local telephone company.

The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the maximum REN for your local calling area.

This equipment may not be used on coin service provided by the telephone company. This control should not be connected to party lines.

Should this equipment cause harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advanced notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this equipment, please contact the manufacturer for information on obtaining service or repairs.

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning. The repairs to this equipment must be made by manufacturer and not by the user.

To guard against accidental disconnection, there is ample room to mount the Telco jack to the inside of the Control cabinet.

The operation of this Control may also be affected if events such as accidents or acts of God cause an interruption in telephone service.

6.18 Canadian Dept. of Communications

General Installation Requirements:

Notice: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network, protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Terminal Requirements:

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number of the DS7080iP-32 is 2.

RFI Requirements:

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. [Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le material broilleur du Canada.]

6.19 For Installations in New Zealand

Two-wire Connection:

The operation of this equipment on the same line as telephones or other equipment with audible warning devices or automatic ring detectors will give rise to bell tinkle or noise and may cause false tripping of the ring detector. Should such problems occur, the user is not to contact Telecom Faults Service.

"This equipment does not fully meet Telecom's impedance requirements. Performance limitations may occur when used in conjunction with some parts of the network. Telecom will accept no responsibility should difficulties arise under such circumstances."

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7.0 Operating Guide

7.1 Fire Safety

This fire alarm system can provide early warning of a developing fire. Such a system, however, does not ensure protection against property damage or loss of life resulting from a fire. Any fire alarm system may fail to warn for any number of reasons (e.g. smoke not reaching a detector that is behind a closed door).

When considering detectors for residential applications, refer to NFPA Standard 72, "The National Fire Alarm Code." This standard is available at a nominal cost from: The National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

7.1.1 If Installed in Family Residences

Adherence to the NFPA Standard 72 can lead to reasonable fire safety when the following items are practiced:

- **Minimize hazards:** Avoid the three traditional fire killers: smoking in bed, leaving children home alone, and cleaning with flammable liquids.
- **Provide a fire warning system:** Most fire deaths occur in the home, the majority, during sleeping hours. The minimum level of protection requires smoke detectors to be installed outside of each separate sleeping area and on each additional story of the dwelling.

For added early warning protection, it is recommended that detectors be installed in all separated areas including the basement, bedrooms, dining room, utility room, furnace room, and hallways.

7.1.2 Having and Practicing an Escape Plan

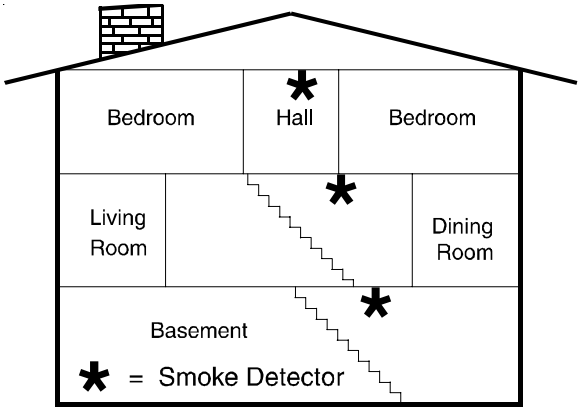
A fire warning may be wasted unless the family has planned in advance for a rapid and safe exit from the building.

- Draw a floor plan of the entire house showing two exits from each bedroom and two from the house. Since stairwells and hallways may be blocked during a fire, the plan should provide exits from bedroom windows.

  Make copies of the plan and practice it with all family members.
- Pre-arrange a meeting place outside and away from the residence. Once out of the building, all occupants should immediately go to the pre-selected location to be accounted for.
- Provide a barricade between family members and fire, smoke, and toxic gases (e.g. close all bedroom doors before retiring).
- Children should be instructed on opening their bedroom windows and exiting safely from the building. If exiting is not possible, they should be taught to stay at the open window and shout for help until it arrives.
- In the event of a fire alarm after retiring, wake the children by shouting to them from behind your closed door. Tell them to keep their bedroom doors closed.
- If the top of your bedroom door is uncomfortably hot, do not open it. There is most likely fire, intolerable heat, or smoke on the other side. Shout to all family members to keep their bedroom doors closed and to exit the building via alternate routes.
- If the top of the door is not uncomfortably hot, brace the bottom of the door with your foot, and the top with one hand, then open the door about one inch. Be prepared to slam the door shut if there is any pressure against the door or if any hot air rushes in.
- If there is no evidence of excessive heat or pressure, leave the room and close the door behind you. Shout appropriate instructions to all family members and immediately leave the building via the pre-planned routes. If heavy smoke is present, drop to your hands and knees and crawl to remain below the smoke level.

7.1.3 Installation Considerations

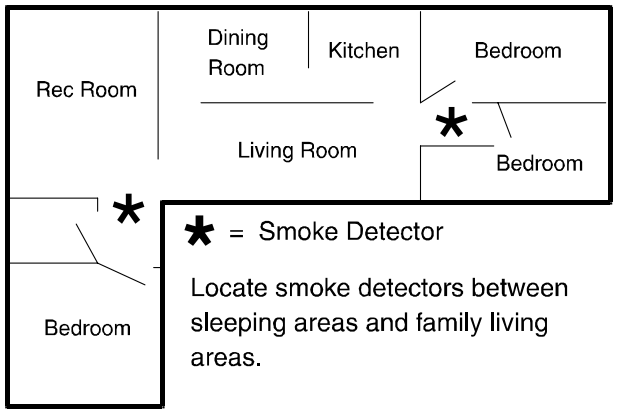
Proper location of detection devices is one of the most critical factors in a fire alarm system.



A smoke detector should be located on each story including basements, but excluding crawl spaces and unfinished attics.

The following are some general considerations:

- Smoke detectors should not be installed in "dead air" spaces or close to ventilating or air conditioning outlets because smoke may be circulated away from the detector. Locations near air inlets should be favored.
- Avoid areas subject to normal smoke concentrations such as kitchens, garages, or near fireplaces.
- Do not install smoke detectors where normal area temperatures are above 100 degrees F (38 degrees C) or below 32 degrees F (0 degrees C).
- Areas of high humidity and dust concentrations should be avoided.
- The edge of ceiling mounted detectors should be no closer than 4 inches (10 cm) from any wall.
- Place the top edge of wall mounted detectors between 4 and 12 inches (10 to 30 cm) from the ceiling.



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7.2 Setting the Date

It is recommended that this procedure be performed at a DS7447 Keypad. No visual clues will be given from a DS7445 keypad.

Steps to Change the Date	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode	[Master Code] + [#] [0]	"2 Change Date" (display will scroll to this)
# 2. Enter a 2	[2]	"Enter Month" (01 … 12)
# 3. Enter the Month	[0] [1] through [1] [2] January December	"Enter Day" (01 …31)
# 4. Enter the Day	[0] [1] through [3] [1]	"Enter Year" (XX) End with [#]
# 5. Enter the Year	The last two digits of the year, followed by the [#] button.	"Month, Day, Year"

NOTE Entering the command sequence [Master Code] [#] [0] [2] [#] will cause the DS7447 keypad to read back the date. The control panel will exit from the Master Code Programming Mode approximately 15 seconds after the last keystroke. If the control panel loses power, the date will need to be set again.

7.3 Setting the Time

It is recommended that this procedure be performed at a DS7447 Keypad. No visual clues will be given from a DS7445 keypad.

Steps to Change the Time	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode	[Master Code] + [#] [0]	"6 Change Time" (display will scroll to this)
# 2. Enter a 6	[6]	"Enter Day" (1 … 7)
# 3. Enter the Day	[1] through [7] Sunday Saturday	"Enter Time" (0100 …1259)
# 4. Enter the Time (Hour and minute)	[0] [1] [0] [0] through [1] [2] [5] [9]	"Enter AM/PM" (4/6) End with [#]
# 5. Enter AM or PM	[4][#] or [#] [6] (4 = AM, 6 = PM)	"Day - TIme"

NOTE Entering the command sequence [Master Code] [#] [0] [6] [#] will cause the DS7447 keypad to read back the time. The control panel will exit from the Master Code Programming Mode approximately 15 seconds after the last keystroke. If the control panel loses power, the time will need to be set again.

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7.4 Personal Identification Numbers

7.4.1 General Information

- **PIN**: Personal Identification Number. This is the 4- or 6-digit code (determined in Address 003) users enter at the keypad to gain access to the system. A PIN may be assigned to each User Number 001 - 024.
- **Partition (Area)**: This is the area the User has authority in. You may select Partition (Area) 1, 2 or both.
- **User Number**: This number identifies each person using the system. There are 24 possible User Numbers (001 - 024).
- **Authority Level**: This number determines which functions each user will be able to perform (see below).

Your system may have up to 24 PINs, each 4 (or 6) digits long. **Each User Number can have only one PIN.**

The PIN length of 4 or 6 digits applies to all PINs (all PINs will be 4 digits or all PINs will be 6 digits) and is determined at the time of installation. The panel comes from the factory with the PIN length set for four digits.

Attempting to assign the same PIN to multiple User Numbers will result in the three-beep error tone, and the change will not be made.

User Number 001 is designated as a Master Code. It can be used to add, delete or change other PINs and will always have access to both partitions regardless of how it is programmed.

User Number 001 is shipped from the factory with the sequence of 123456. This code should be changed to one of your personal preference, and must be programmed as a Master Code. PINs should never be programmed with common sequences such as 1111 or 2468 because they are easily violated.

7.4.2 Removing a PIN

To remove a PIN: enter a [Master Code] [#] [0] [0], the [User Number] of the PIN to be canceled, and then [#] again.

User Number 001 can not be canceled in this manner.

This chart will guide you through the steps necessary to change a PIN.

It is recommended that this procedure be performed at a DS7447 keypad. No visual clues will be given from a DS7445 keypad.

Steps to Change a PIN	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode	[Master Code] + [#] [0]	"0 User Change" (display will scroll to this)
# 2. Enter a 0	[0]	"Enter User No." (001 … 024)
# 3. Enter the User Number	[0] [0] [1] through [0] [2] [4]	"Enter Authority" Level (0 – 6)
# 4. Enter the Authority Level	[0] through [6]	"Enter Are or # for Both"
# 5. Enter the Area(s) (Partitions) this User has access to	[1], [2] or [#] for both	"Enter PIN"
# 6. Enter the PIN	Any 4 or 6 digits. Do not press [#]	"Enter PIN Again. End with #."
# 7. Enter the PIN again followed by [#]	[PIN] (same 4 or 6 digits as above) then [#]	A long beep will sound to signify acceptance of the new PIN

The control panel will exit you from the Master Code Programming Mode after about 15 seconds without a keystroke.

7.4.3 PIN Authority Levels

0 = Master: Can enter all commands, add or change PINs, change time and date, bypass, arm, set autoarm, disarm, perform system tests, system reset, and view history. PIN 01 must be a master code and must have authority 0. Any or all PINs may be master codes.

1 = Unlimited: Can enter all commands, bypass, arm, disarm, system reset, and perform system tests. Can not change PINs.

2 = General: Can bypass, arm, and disarm. Can not change PINs, perform system reset, or enter the [#] [7] or [#] [8] functions.

3 = Arm Only: Can arm the system with [#] [On] arming only. Can not perform any other functions including disarming.

4 = Temporary: Valid only for a limited time. Can arm and disarm the system, but can not perform any other functions. This code will automatically be deleted after 15 days if you have not already done so.

5 = Duress: When the system is disarmed using a duress code, a silent report is sent to the central station. Duress codes are intended to be used when the user is forced to disarm the system.

6 = Access: When a PIN with Access Code authority is entered, any output programmed for Access Output (e.g. door strikes) will pulse on for 10 seconds (works when the system is armed or disarmed).

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7.5 Automatic Arming

To inform occupants that the system is about to arm, a pre-arming period will begin 15 minutes before the system arms automatically. If programmed by the installing company, the keypad sounders, and any outputs programmed to follow the keypad sounders, will pulse five times every minute. During the last five minutes before arming, these sounders will be on steady. Once per minute the DS7447 keypad will read, “Arm in nn min./PIN + OFF - extend.”

Automatic Arming will affect only the partitions you have access to.

Each partition can be programmed to automatically arm once per day. To program the Automatic Arming Time, perform the following:

Setting the Automatic Arming Time	Notes
Enter a [Master PIN] + [#] [0]	Setting the Automatic Arming Time can only be performed with a Master Code PIN.
Enter a [1]	Enters the Automatic Arm Setup programming
Enter the partition number; Press [#] to exit	The program will prompt you to enter partition 1 or 2 if the system is partitioned and if the use has access to both partitions. If the system is not partitioned or if the user has access to only one partition, this selection will not appear. In a non-partitioned system, the display will automatically go to Sunday. The user will only be allowed to program the partitions to which they are assigned.
Enter a Time for each day Enter in [0] [1] [0] [0] [#] format	The display will start with Sunday. It will read “Sunday – nn:nn” Enter the time in 24-hour format. You may move the cursor left or right by pressing the “A” (Fire) or “C” (Panic) keys. When you have completed the time entry press [#]. The display will then advance to the next day. You may exit the Set Auto Arm Time Mode at any time by pressing [*] once. The system will also exit the Auto Arm Time Mode after the time is programmed for Saturday. Samples of times: 12 midnight = 2400# 12 noon = 1200# 12:01am = 0001# 12:01pm = 1201# 1:00am = 0100# 1:00pm = 1300# Disabled = 0000#

Note: The panel time and date must be set in order for this feature to work properly.

7.6 Delayed Automatic Arming

This section explains how to delay the Automatic Arming Time.

To inform occupants that the system is about to arm, a pre-arming period will begin 15 minutes before the system arms automatically.

If programmed by the installing company, the keypad sounders, and any outputs programmed to follow the keypad sounders, will pulse five times every minute. During the last five minutes before arming, these sounders will be on steady.

Once per minute the DS7447 keypad will read, “Arm in nn min./PIN + OFF - extend.”

Delayed Automatic Arming will affect only the partitions you have access to.

To extend the Automatic Arming of the system during the automatic arming pre-arming period, perform the following steps:

Extending Automatic Arming *	What Will Happen
Enter a [PIN]	
Press [OFF]	The arming time will be extended 30 minutes. A new pre-arming periof will begin 15 minutes prior to the new automatic arming time.

* = To extend the Automatic Arming at any time, use the Delayed Arming feature in the “Setting Dealyed Arming” seciton.

Note: The keypad volume setting also applies to the Auto Arm tone.

Note: The panel time and date must be set in order for this feature to work.

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7.7 Error Displays

Control panel problems are indicated by a flashing green Power Light.
The DS7447 display will also read "Control Trouble, Enter [#] [8] [7]." The DS7445 will only flash the green Power Light.
The Error messages may only be read when the control is disarmed.
Contact your installing company if the problems persist.

1. **DS7447 - "AC Power Failure":**
   DS7445 - LED 1 turns on steady:
   There is a power failure and the panel is operating on backup battery.
2. **DS7447 - "Battery Trouble":**
   DS7445 - LED 2 turns on steady:
   If the system has just been through a power failure, wait at least two hours for the battery to recharge, then enter [PIN] + [System Reset] to perform a battery test.
3. **DS7447 - "Communicator Err":**
   DS7445 - LED 3 turns on steady:
   The communicator failed to communicate with the central station.
4. **DS7447 - "System Fault":**
   DS7445 - LED 4 turns on steady:
   Internal error in the control circuitry or optional circuitry. These faults are displayed as follows:

[#] [8] [7] will display	[#] [8] [9] will display
RAM Fault	System Fault 01
ROM Fault	System Fault 02
EEPROM Fault	System Fault 03
TRBL Zone Fault	System Fault 05
Oct. Relay Fault	System Fault 20

5. **DS7447 - "Keypad Fault":**
   DS7445 - LED 5 turns on steady:
   One of the keypads is not responding to the control panel.
6. **DS7447 - "Aux Power Fault":**
   DS7445 - LED 7 turns on steady:
   The auxiliary power has been shorted.
7. **DS7447 - "Zone Trouble XX":**
   Zone XX (number) is not responding to the control panel or is not ready. This may also be displayed during power-up (if so, ignore).

Action Desired	Command Sequence*
Read the Error Display when the green Power Light is flashing.	[PIN] + [#] [8] [7]
Clear Error Display** **Caution:** Clear the error display only on the advice of your installing company or if you are certain the problem has been remedied.	[PIN] + [System Reset] or [PIN] + [#] [8] [7] [*]

* = If in "Residential Mode", a PIN is not required for these commands.

** = Battery Trouble and Communicator Err displays must be cleared by the [System Reset] command sequence even after the problem has been remedied. These displays will not self clear. All the other error displays will self clear from the keypads once the problem has been remedied.

8. **DS7447 - "Pt Exp Mssng XXX":**
   DS7445 - LED 8 turns on steady:
   The EX8 Zone Expansion Module for Address XXX is missing, defective or not communicating to the Options bus.
9. **DS7447 - "Pt Exp Tamper XXX":**
   DS7445 - LED 8 turns on steady:
   The EX8 Zone Expansion Module for Address XXX has a tamper condition.
10. **DS7447 - "Pt Exp Fault":**
    DS7445 - LED 8 turns on steady:
    The EX8 Zone Expansion Module(s) has had a DC overcurrent fault.
11. **DS7447 - "Keypad Tamper":**
    DS7445 - LED 6 turns on steady:
    One of the keypad housings has been opened.

7.8 Remote Program Dial-out and Answer

Type of Function	Command Sequence *	What Will Happen
Remote Program Dial-Out **	[PIN] + [#] [8] [3]	The panel will call the remote programmer.
Remote Program Answer	[PIN] + [#] [8] [6]	The panel will answer a call from the remote programmer.

This chart will help you to call or answer the Remote Programmer.
* = If in "Residential Mode", a PIN is not required for these commands.
** = Phone numbers 1 and 3 must be programmed. Phone #1 Account Code must be programmed.

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7.9 Zone Test

This chart explains the procedure for performing a Zone Test.

It is recommended that the system be tested weekly.
The Zone Test is used to confirm that detectors will report alarms.
Zone Test works on all zones, except 24-hour zones and fire zones.
While the keypad is in Zone Test, no control panel alarms will activate an alarm, except 24-hour zone alarms and fire alarms.
These will override the Zone Test function.

NOTE The Zone Test tests all zones (except 24 hour and fire zones) regardless of partition assignment.

Type of Test	Command Sequence *	What Will Happen	What To Do
Zone Test	[PIN] + [#] [8] [1]	DS7447: "**Test Zone**" will display followed by the zone number of any zones that have not been tested. DS7445: The zone LEDs will flash for any zones that have not been tested. DS7447: "**Now Testing**" will be displayed followed by the zone number of the zone that is currently being violated (tested). It returns to "**Test Zone**" after the violation. DS7445: The zone LED will turn on steady for the zone that is currently being violated (tested).	Test each detector one at a time as instructed by the installing company. To exit the Zone Test Mode, enter your [PIN] followed by [#]

* = If in "Residential Mode", a PIN is not required for this command.

7.10 Battery / Sounder Test

This chart explains the procedure for performing a battery test.

If a power failure occurs, your control panel has a built-in battery that will continue to power the control panel for many hours.
The control panel automatically recharges the battery when power is restored.
In addition to an automatic battery test performed every 24 hours, the battery may also be tested manually.
This test also uses the battery to manually activate all the system sounders for 2 seconds, [#] [8] [5] only.
If the battery voltage is low, a battery fault will occur (see Error Displays).

NOTE The Battery Test cannot be performed during the first 2 minutes after the control panel is powered up.

Type of Test	Command Sequence *	What Will Happen	What To Do
Local Battery / Sounder Test	[PIN] + [#] [8] [5]	• All keypad lights will turn on • The keypad sounder and all alarm sounding devices will operate for 2 seconds	If test fails, the control panel will indicate a control problem. See *Error Displays*, section 7.5 If power in your building has been off recently, wait 2 hours for the battery to recharge and try again.
Battery Test	[PIN] + [System Reset]	• The control panel will perform a battery test • The control panel will report a Low Battery or a Low Battery Restoral	

* = If in "Residential Mode", a PIN is not required for these commands.

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7.11 Communicator Test

This chart explains the procedure for performing a Communicator Test.

This test is available only if your system transmits alarms and system information to a monitoring service, and has been programmed by the security installing company to permit communicator tests.
A long beep will initially sound to acknowledge the start of the test.
If the test is successful, the sounder will again issue one long beep.
If the test fails, the keypad sounder will turn ON continuously.

To silence the sounder, enter your [PIN] followed by the [#] key or press the [*] key.

Type of Test	Command Sequence **	What Will Happen	What To Do
Communicator Test Requires addresses 082, 013, 015 and 017 to be programmed	[PIN] + [#] [8] [2]	• A long beep will sound • A "Test" report will be sent to the monitoring service	If test fails, the keypad sounder will sound continuously. To silence the sounder, enter your [PIN] followed by [#] key or the [*] key. **Note:** This test may take several minutes to complete because the control will try up to 10 attempts (depending on the number of attempts programmed in Address 023) before it fails this test.

** = If in "Residential Mode", a PIN is not required for this command.

7.12 Event History Readback

This chart explains the procedure for performing an Event History Readback.

The History Buffer stores the last 100 events in memory. The DS7447 can display all of these events. The DS7445 will only display those zones (1-8) that have alarmed.

Type of Test	Command Sequence **	What Will Happen	What To Do
Event History Readback	[PIN] + [#] [8] [9]	DS7447: The last event to take place will be displayed DS7445: The zone LEDs (1-8) will flash for any zones that have alarmed.	DS7447: Scroll through the events by using the [9], [6] an [#] keys. See below. To exit from the Event History Mode, press [*]

** = If in "Residential Mode", a PIN is not required for this command.

DS7447 Only: Scrolling through the History Events.

To begin scrolling back through the events, press the [#] key. The [#] key will scroll you back through the history line by line. The [9] key will scroll you back in reverse chronological order by event. A [6] will scroll you forward through the events (toward the most recent) by event.

Each event consists of two lines or display screens. The first line/screen will be the event title and user. The second line/screen will be the date of the event or the change being made.

To exit the Event History Mode, press the [*] key or wait 20 seconds and the keypad will exit automatically.

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8.0 How to Program the DS7080iP-32

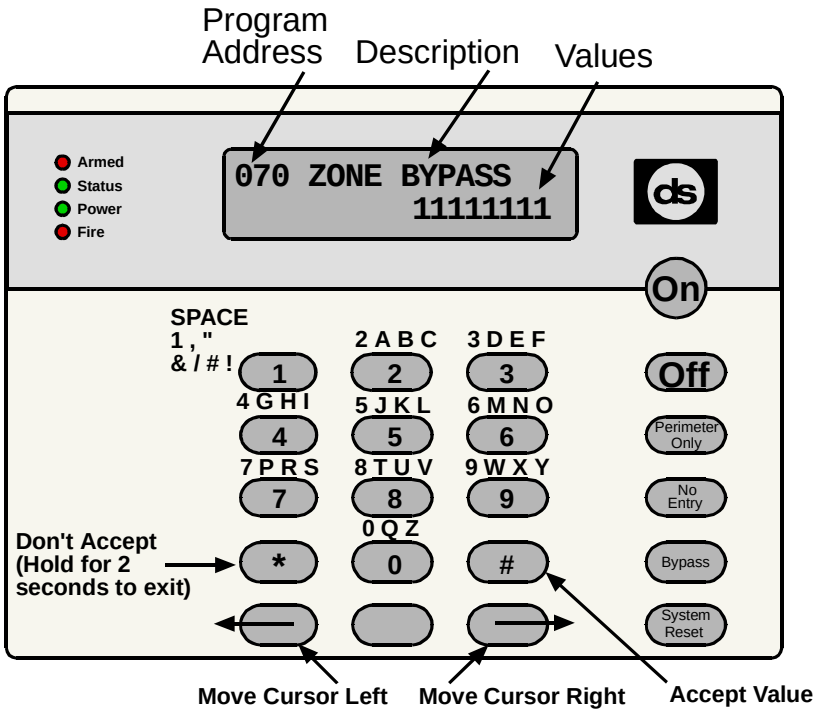
To enter the programming mode, the panel must be disarmed. When in the programming mode the control is disabled and no alarms will be processed, including 24-hour zones and fire zones.

To enter the Programmer's Mode, enter the [Programmer's Code] followed by [#] [0]. Shorting the programming pads (see Section 2.2 for location) on the control panel will also activate the Programmer's Mode. The default Programmer's Code is 9876. Enter the Program Address (i.e. [0] [0] [2]). Press [#] to change the values. After all values have been changed, press [#] to accept the changes and return to the Program Address. Repeat the above until all addresses are programmed.

NOTE Some data digit values are higher than 9. These values are programmed by pressing [*] followed by another number. These values will display as HEX characters when entered. The HEX character values are:

*0 = A, *1 = B , *2 = C, *3 = D, *4 = E, *5 = F.

To exit the Programmer's Mode, press the [*] key for 2 seconds. Also, if no keypad entries are made for 4 minutes, the control will automatically exit from the Programmer's Mode.



9.0 Programming the DS7080iP-32

Most control panel functions are controlled using a single program address. Some functions are grouped into one address. For example: The keypad emergency keys are programmed in Address 028. The first data digit of this address is for the "A" key (Fire Key), the second is for the "B" key (Special Emergency Key), and the third is for the "C" key (Panic Key). Other addresses are configured this way also, with the address representing a group of functions and each data digit controlling a specific function.

Example: To program the Fire Key as Pulsing Audible, the Help Key as Steady Audible and the Panic Key as Invisible.

Use the following chart for each Address to record your selections before programming.

	DEFAULT	0	0	0
0 = Disabled 1 = Invisible 2 = Steady Audible 3 = Pulsing Audible	FIRE KEY [A]			
	SPECIAL EMERGENCY KEY [B]			
	PANIC KEY [C]			

Enter the Programmer's Mode:	[9] [8] [7] [6] [#] [0] (or [9] [8] [7] [6] [5] [4] [#] [0] if 6-digit codes are selected) will display the program mode
Enter the Program Address:	[0] [2] [8]
Enter:	[#] to change the values
Enter:	[3] in the first data field to change the Fire Key to Pulsing Audible
Enter:	[2] in the second data field to change the Help Key to Steady Audible
Enter:	[1] in the third data field to change the Panic Key to Invisible
Enter the Pound button:	[#]

Program the next Address, a different Address, or exit the Programmer's Mode.

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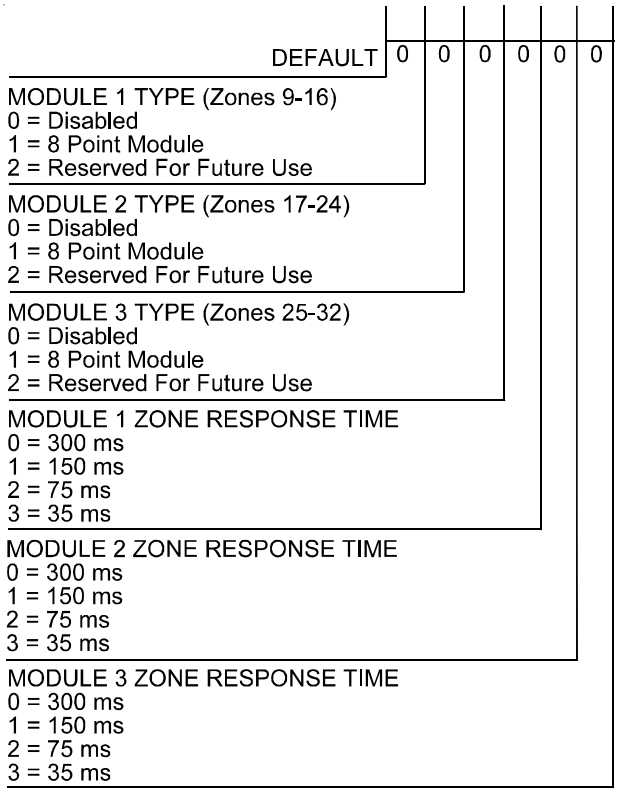
9.1 Address 001 - EX8 Zone Expansion Module Control

This Address determines how many EX8 Zone Expansion Modules are in the system and the zone response time for those zones. There are 8 hard-wired zones on each Zone Expansion Module. The modules need to be enabled in ascending order from Module 1 to Module 3.

Programming the EX8 Expansion Module:

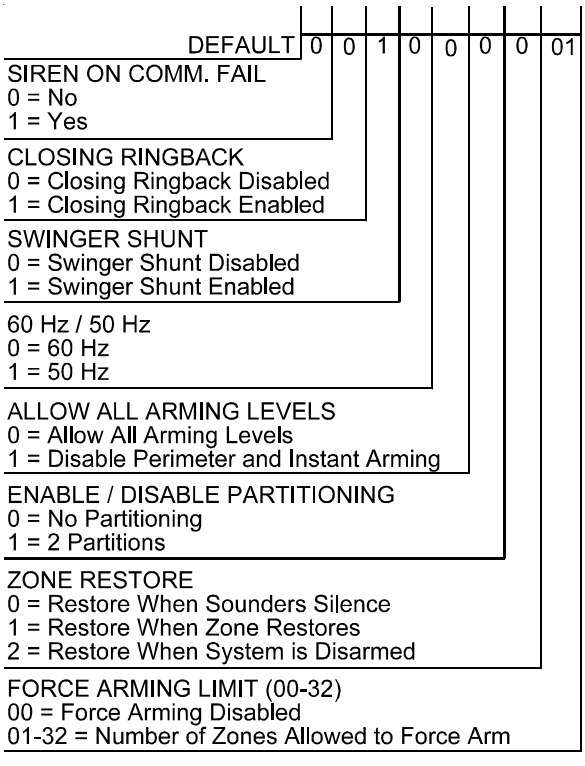
- Module 1 is fixed at Option Bus Address 101 and makes zones 9 through 16 available to the system.
- Modules 2 and 3 are likewise fixed at Option Bus Addresses 102 and 103 respectively. They make zones 17 through 24 and 25 through 32 available to the system.
- Refer to the EX8 Installation Guide (P/N 39565) to configure the module addresses.
- Module 1 must be enabled before Module 2 can be used. Likewise, Module 2 must be enabled before Module 3 can be used.
- Be sure and set each module with a different address. Failure to do so will result in improper communication between the EX8 and the panel.


DEFAULT 0 0 0 0 0 0
MODULE 1 TYPE (Zones 9-16)
0 = Disabled
1 = 8 Point Module
2 = Reserved For Future Use
MODULE 2 TYPE (Zones 17-24)
0 = Disabled
1 = 8 Point Module
2 = Reserved For Future Use
MODULE 3 TYPE (Zones 25-32)
0 = Disabled
1 = 8 Point Module
2 = Reserved For Future Use
MODULE 1 ZONE RESPONSE TIME
0 = 300 ms
1 = 150 ms
2 = 75 ms
3 = 35 ms
MODULE 2 ZONE RESPONSE TIME
0 = 300 ms
1 = 150 ms
2 = 75 ms
3 = 35 ms
MODULE 3 ZONE RESPONSE TIME
0 = 300 ms
1 = 150 ms
2 = 75 ms
3 = 35 ms

9.2 Address 002 - General Control

General Control is used to define the following functions:

- **Siren on Comm. Failure:** If programmed, a silent zone will sound the alarm outputs if the zone is in an alarm condition and the system fails to communicate with the central station.
- **Closing Ring-Back:** If programmed, the keypad sounders and Bell will activate for 2 seconds after the system is armed and the closing report is successfully sent. This requires the Closing Ring-Back and Closing Reports to be programmed.
- **Swinger Shunt:** If selected, a zone can only alarm or trouble up to three times per armed period. After the third alarm or trouble, the zone will be bypassed and a bypass report for this zone will be sent.
- **60Hz/50Hz:** The selection is used to determine the primary line frequency for the control panel. *60 Hz is required for U.L. Listed Requirements.*
- **Allow All Arming Levels:** This selection will allow Perimeter, Perimeter Instant and Maximum Security Arming.
- **Enable/Disable Partitioning:** Determines if the system is a one or two partition system.
- **Zone Restore:** This selection is used to determine when a zone restores.
  - **Restore when Sounders Silence:** If selected, a zone sends a restoral report and is ready to activate again only after the burglary bell cut-off time expires or the bells are silenced.
  - **Restore when Zone Restores:** If selected, a zone sends a restoral report and is ready to activate again as soon as it physically restores.
  - **Restore when System is Disarmed:** If selected, a zone sends a restoral report when the system is disarmed. If Restore when System is Disarmed is selected, only one alarm per zone (except fire zones) will be sent during an armed period.


DEFAULT 0 0 1 0 0 0 0 01
SIREN ON COMM. FAIL
0 = No
1 = Yes
CLOSING RINGBACK
0 = Closing Ringback Disabled
1 = Closing Ringback Enabled
SWINGER SHUNT
0 = Swinger Shunt Disabled
1 = Swinger Shunt Enabled
60 Hz / 50 Hz
0 = 60 Hz
1 = 50 Hz
ALLOW ALL ARMING LEVELS
0 = Allow All Arming Levels
1 = Disable Perimeter and Instant Arming
ENABLE / DISABLE PARTITIONING
0 = No Partitioning
1 = 2 Partitions
ZONE RESTORE
0 = Restore When Sounders Silence
1 = Restore When Zone Restores
2 = Restore When System is Disarmed
FORCE ARMING LIMIT (00-32)
00 = Force Arming Disabled
01-32 = Number of Zones Allowed to Force Arm

- **Force Arming Limit:** Determines the maximum number of zones that may be force armed.

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9.3 Address 003 - User Controls

User Controls are used to determine if there is a keypad audible during the exit time, if the audible devices are tested upon arming the system, whether the Trouble Zone is Normally Open or Closed and if the PIN numbers are 4 or 6 digits in length.

- Keypad Audible During Exit will activate the keypad sounder (and any outputs programmed to follow the keypad sounder) once every 5 seconds during the exit delay. At 10 and 5 seconds remaining, the sounder will activate 3 times. The Keypad Audible During Exit also determines if the sounders will activate during the Auto Arm period.
- To inform occupants that the system is about to arm, a pre-arming period will begin 15 minutes before the system arms automatically. If programmed, the keypad sounders and any outputs programmed to follow the keypad sounders will pulse five times every minute. During the last five minutes before arming, these sounders will be on steady. Once per minute the DS7447 keypad will read, "Arm in nn min./ PIN + OFF - extend."

  Automatic Arming will affect only the partitions the user has access to.

DEFAULT	0	0	0	0	0	1

KEYPAD AUDIBLE DURING EXIT
0 = No audible during Exit Delay
1 = Audible On during Exit Delay

2 SEC. ALARM OUTPUT AT MANUAL ARMING AND END OF EXIT DELAY
0 = No Alarm Output on Arming
1 = Alarm Output on Arming

TROUBLE ZONE MODE
0 = Disabled
1 = Normally Open
2 = Normally Closed

FOUR OR SIX DIGIT PIN LENGTH
0 = Four Digit PINs
1 = Six Digit PINs

KEYPAD TAMPER TROUBLE
0 = Keypad Tamper Trouble Disabled
1 = Keypad Tamper Trouble Enabled

If "Six Digit PINs" has been selected and the PIN numbers have been entered, changing to "Four Digit PINs" may cause PIN entry errors. Changing from 6 to 4 digit PINs will retain the first 4 digits of the existing PINs and drop the last two digits. **Example:** 123456 will become 1234. If two or more six digit PINs have the same first four digits, a PIN conflict will exist if changed to four digits.

Changing from four to six digit PINs will add two zeros to the end of the existing PINs. Example: 1234 will become 123400.

It is recommended that when changing the PIN length that all PINs be reprogrammed.

9.4 Address 004 - Programmer and Master Codes

The display will not show the values entered but the cursor will move to indicate the digit you are changing. If the 4 Digit mode is selected in Address 003 only digits 1-4 for the programmer's PIN and 7-10 for the Master PIN need to be changed. If 6 digits is selected in Address 003 you must enter digits 1-6 for the programmer's PIN and 7-12 for the Master PIN. You may move the cursor left by pressing the "C" (Panic) key or right by pressing the "A" (Fire) key. You can change individual digits in the PIN numbers by moving the cursor to the position and entering a new number.

NOTE The use of four or six digits depends on the PIN Length as selected in digit 4 of Address 003. If four digits is selected in Address 003, then only the first four digits of the Programmers and Master PINs will require programming.

Four or six digits, 0-9

DEFAULT	987654	123456

PROGRAMMERS PIN

MASTER PIN

9.5 Address 005 - Cross-Zoning

Cross-zoning programming determines which zones may be cross-zoned with each other. Only zones 1-8 may be cross-zoned.

0 = Is not Cross Zoned
1 - 8 = select the zone to cross with. If you select the same value as the Zone Number, That Zone will be cross zoned with all other zones.

Example: If you are programming zone 2 and you select the value of 2, zone 2 will be crossed with all zones.

DEFAULT	0	0	0	0	0	0	0	0

ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
ZONE 7
ZONE 8

9.6 Address 006 - Trip window

Cross-zoning Trip Window Time programming defines the number of seconds for the Cross-zone Window. If 000 is used the trip window will be the duration of the arm cycle of the crossed non-24 hour zones. If they are 24 hour zones, then the duration is 24 hours.

DEFAULT	000

CROSS ZONING TRIP WINDOW TIME
000 - 099 Seconds

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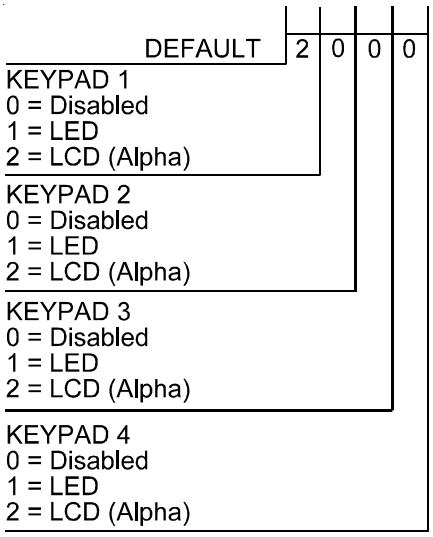
9.7 Address 007 - Keypad Assignment

This selection is used to determine if a keypad is Alpha (LCD) or LED. Each keypad slot is assigned an Option Bus Address of 1, 2, 3 or 4 respectively.



9.8 Address 008 - Language and Arming Controls

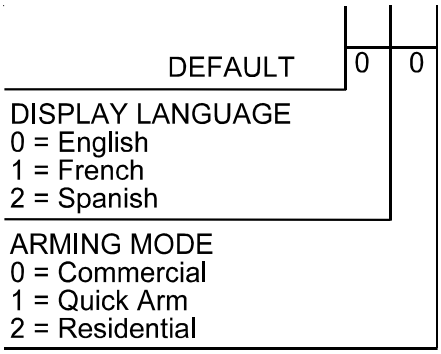
This address is used to determine the following:

- **Display Language:** This selection is used to determine if system messages are displayed in English or another language. Selections for other languages will vary, depending on the model ordered.
- **Arming Mode:** Determines if a PIN is required for arming the system.
  - **Commercial:** Always requires a PIN for arming.
  - **Quick Arm:** Allows the use of [#] [ON] to arm the system.

NOTE Not available in Partitioned systems.

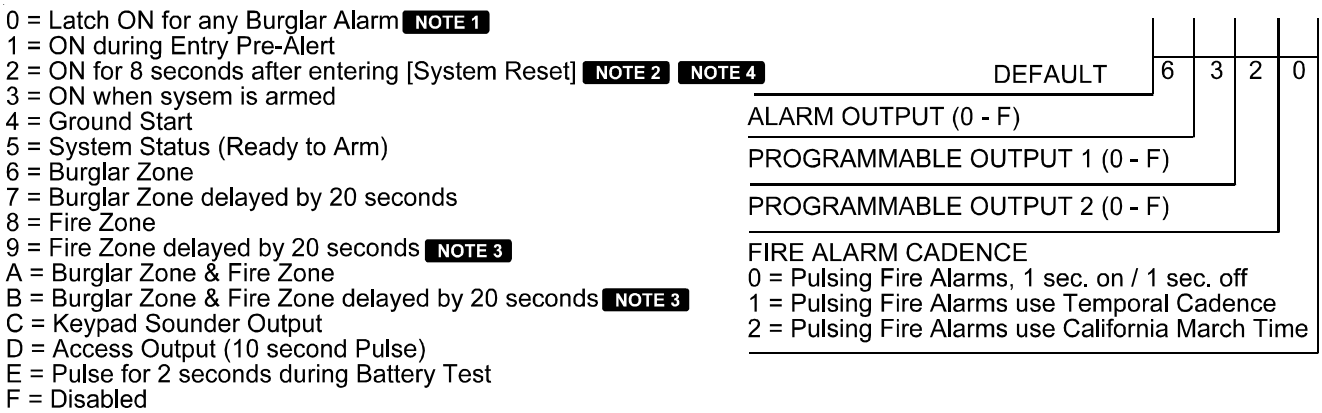
  - **Residential:** Allows the use of the # key in place of the PIN number for all system functions except Disarming.

NOTE Not available in Partitioned systems.



9.9 Address 009 - Output Programming

Output Programming is used to determine the output functions of the Alarm Output and Programmable Outputs 1 & 2.


0 = Latch ON for any Burglar Alarm NOTE 1
1 = ON during Entry Pre-Alert
2 = ON for 8 seconds after entering [System Reset] NOTE 2 NOTE 4
3 = ON when sysem is armed
4 = Ground Start
5 = System Status (Ready to Arm)
6 = Burglar Zone
7 = Burglar Zone delayed by 20 seconds
8 = Fire Zone
9 = Fire Zone delayed by 20 seconds NOTE 3
A = Burglar Zone & Fire Zone
B = Burglar Zone & Fire Zone delayed by 20 seconds NOTE 3
C = Keypad Sounder Output
D = Access Output (10 second Pulse)
E = Pulse for 2 seconds during Battery Test
F = Disabled
DEFAULT
6 3 2 0
ALARM OUTPUT (0 - F)
PROGRAMMABLE OUTPUT 1 (0 - F)
PROGRAMMABLE OUTPUT 2 (0 - F)
FIRE ALARM CADENCE
0 = Pulsing Fire Alarms, 1 sec. on / 1 sec. off
1 = Pulsing Fire Alarms use Temporal Cadence
2 = Pulsing Fire Alarms use California March Time

NOTE 1 Includes Silent and Invisible Alarms

NOTE 2 For Alarm and PO1 outputs. PO2 output turns OFF for 8 seconds.

NOTE 3 May not be allowed in some areas. Check your local Codes.

NOTE 4 Required for Programmable Output 2 if zone 1 is used for two wire smoke detectors.

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9.10 Address 010 - Time Delays

This address is used to determine the entry and exit delays as well as the bell cutoff times.

NOTE If a bell cutoff time is programmed with the maximum value of 099, then the actual cutoff time will be 30 seconds..

DEFAULT	045	045	060	004	004

ENTRY DELAY 1 TIME
0 to 250; Number of Seconds

ENTRY DELAY 2 TIME
0 to 250; Number of Seconds

EXIT DELAY TIME
0 to 250; Number of Seconds

FIRE BELL CUTOFF TIME
0 to 099; Number of Minutes

ALARM BELL CUTOFF TIME
0 to 099; Number of Minutes

9.11 Address 011 - Report Controls

Address 011 is used to determine report routing. Use options 0-3 for Non-partitioned systems.

WARNING

Do not select Options "4" through "C" if "No Partitioning" is selected in Address 002 Digit 6.

DEFAULT	1	0	0	0	0

OPEN AND CLOSE REPORTS
0 = **Disabled**
1 = **Partition 1 only.** Send Open and Close reports.Do not send bypass reports for bypassed or force armed zones.
2 = **Partition 1 only.** Send Open and Close reports and send bypass reports for bypassed and force armed zones.
3 = **Partition 1 only.** Only send Open and Close reports if any zones are bypassed or force armed and send bypass reports for the bypassed and force armed zones.
4 = **Partition 2 only.** Send Open and Close reports.Do not send bypass reports for bypassed or force armed zones.
5 = **Partition 2 only.** Send Open and Close reports and send bypass reports for bypassed and force armed zones.
6 = **Partition 2 only.** Only send Open and Close reports if any zones are bypassed or force armed and send bypass reports for the bypassed and force armed zones.
7 = **Both Partitions.** Send Open and Close reports.Do not send bypass reports for bypassed or force armed zones.
8 = **Both Partitions.** Send Open and Close reports and send bypass reports for bypassed and force armed zones.
9 = **Both Partitions.** Only send Open and Close reports if any zones are bypassed or force armed and send bypass reports for the bypassed and force armed zones.
A = **First to Open/Last to Close**. Send an Open report for the first partition to open and a Close report for the last partition to close. Do not send bypass reports for bypassed and force armed zones.
B = **First to Open/Last to Close**. Send an Open report for the first partition to open and a Close report for the last partition to close. Send bypass reports for bypassed and force armed zones only for the last partition to close.
C = **First to Open/Last to Close**. Only send an Open report for the first partition to open and a Close report for the last partition to close if there are bypassed or force armed zones in the last partition to close.

DAY MONITOR ZONES
0 = Do not send Trouble reports for Day Monitor Zones
1 = Send Trouble reports for Day Monitor Zones when disarmed

OPEN / CLOSE REPORT ROUTING
0 = Alternate between both Phone Numbers
1 = Report to Phone Number 1
2 = Report to Phone Number 2
3 = Report to both Phone Number 1 and 2

ZONE REPORT ROUTING (BYPASS, ALARM, ZONE TROUBLE)
0 = Alternate between both Phone Numbers
1 = Report to Phone Number 1
2 = Report to Phone Number 2
3 = Report to both Phone Number 1 and 2

OTHER REPORT ROUTING (SYSTEM TROUBLE, TEST ETC.)
0 = Alternate between both Phone Numbers
1 = Report to Phone Number 1
2 = Report to Phone Number 2
3 = Report to both Phone Number 1 and 2

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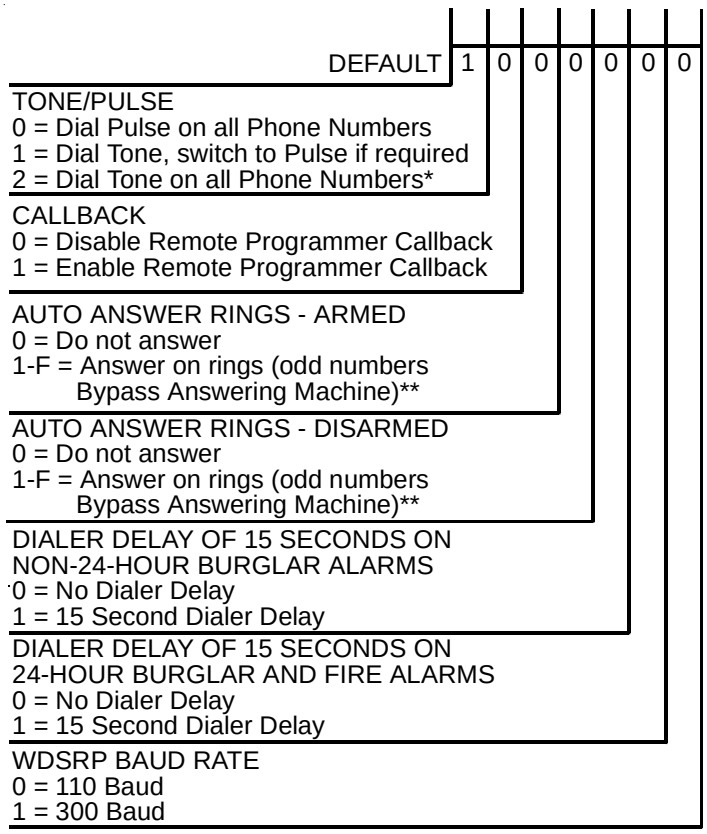
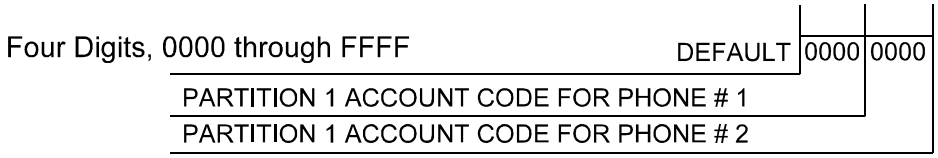
9.12 Address 012 - Phone Controls


DEFAULT 1 0 0 0 0 0 0
TONE/PULSE
0 = Dial Pulse on all Phone Numbers
1 = Dial Tone, switch to Pulse if required
2 = Dial Tone on all Phone Numbers*
CALLBACK
0 = Disable Remote Programmer Callback
1 = Enable Remote Programmer Callback
AUTO ANSWER RINGS - ARMED
0 = Do not answer
1-F = Answer on rings (odd numbers
Bypass Answering Machine)**
AUTO ANSWER RINGS - DISARMED
0 = Do not answer
1-F = Answer on rings (odd numbers
Bypass Answering Machine)**
DIALER DELAY OF 15 SECONDS ON
NON-24-HOUR BURGLAR ALARMS
0 = No Dialer Delay
1 = 15 Second Dialer Delay
DIALER DELAY OF 15 SECONDS ON
24-HOUR BURGLAR AND FIRE ALARMS
0 = No Dialer Delay
1 = 15 Second Dialer Delay
WDSRP BAUD RATE
0 = 110 Baud
1 = 300 Baud

* Required on PBX systems.
** The letters used for the ring counts are:
A = 10 rings
B = 11 rings
C = 12 rings
D = 13 rings
E = 14 rings
F = 15 rings

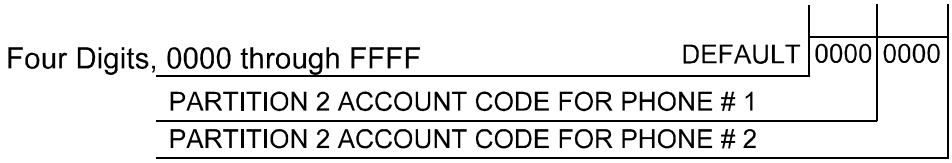
9.13 Address 013 - Partition 1 Account Codes


Four Digits, 0000 through FFFF
DEFAULT 0000 0000
PARTITION 1 ACCOUNT CODE FOR PHONE # 1
PARTITION 1 ACCOUNT CODE FOR PHONE # 2

NOTE

1) Account codes are programmed from left to right. If programming a 3-digit Account Code, the last digit of the code must be zero (0).
2) 0000 is not a valid Account Code.
3) If you program the Account Code with an “A” (*0), the panel will send a zero (0) in its place.
4) If one of the Account Codes for Partition 2 or Parition 1 Phone #1 is programmed as 0000, then the panel will use the code programmed for Partition 1-Phone #1.

9.14 Address 014 - Partition 2 Account Codes


Four Digits, 0000 through FFFF
DEFAULT 0000 0000
PARTITION 2 ACCOUNT CODE FOR PHONE # 1
PARTITION 2 ACCOUNT CODE FOR PHONE # 2

NOTE

See Note in Section 9.13.

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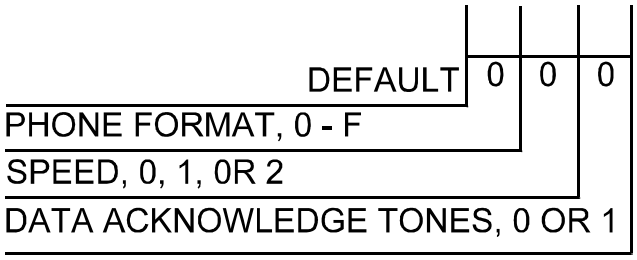
9.15 Address 015 - Phone # 1 Format

Phone Format

0 = Disabled
1 = 3/1
2 = 3/1E (Extended Reporting)
3 = 3/1 with Parity
4 = 3/1E with Parity
5 = 4/1
6 = 4/2
7 = BFSK
8 = SIA (110 Baud)
9 = Contact ID
A = SIA (300 Baud)
B = ROBOFON (Sweden only)
C = Personal Dialing format
D = High Speed 4/9
F = Pager



Speed

0 = 10 pps
1 = 20 pps
2 = 40 pps

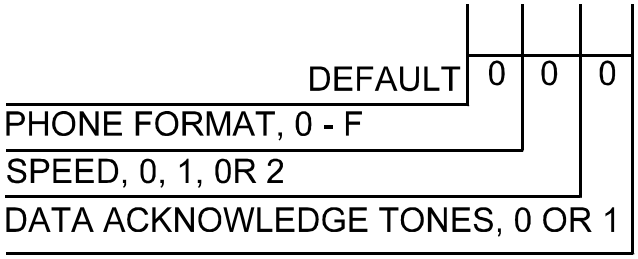
Data/Acknowledge Tones

0 = 1900 data - 1400 ack
1 = 1800 data - 2300 ack

9.16 Address 016 - Phone # 2 Format

Phone Format

0 = Disabled
1 = 3/1
2 = 3/1E (Extended Reporting)
3 = 3/1 with Parity
4 = 3/1E with Parity
5 = 4/1
6 = 4/2
7 = BFSK
8 = SIA (110 Baud)
9 = Contact ID
A = SIA (300 Baud)
B = ROBOFON (Sweden only)
C = Personal Dialing format
D = High Speed 4/9
F = Pager



Speed

0 = 10 pps
1 = 20 pps
2 = 40 pps

Data/Acknowledge Tones

0 = 1900 data - 1400 ack
1 = 1800 data - 2300 ack

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9.17 Address 017 - 022 - Phone Numbers

Address 017-018 Phone # 1 (Reporting)
Address 019-020 Phone # 2 (Reporting)
Address 021-022 Phone # 3 (Remote Programmer)

Address 017 Phone # 1 (digits 1-16): _____
Address 018 Phone # 1 (digits 17-32): _____

Address 019 Phone # 2 (digits 1-16): _____
Address 020 Phone # 2 (digits 17-32): _____

Address 021 Phone # 3 (digits 1-16): _____
Address 022 Phone # 3 (digits 17-32): _____

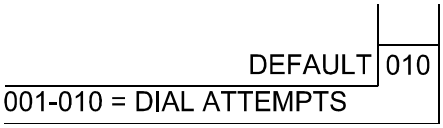
NOTE To dial the [*] character, enter *1 (The [*] character is sent as "1" "1" when pulse dialing). The Letter "B" will be displayed.
To dial the [#] character, enter *2 (The [#] character is only valid when tone dialing). The letter "C" will be displayed.
To input a 3 second delay, enter *3. The letter "D" will be displayed.
To wait for the dial tone, enter *4 as the first digit of the phone number. The letter "E" will be displayed (only if it is programmed as the first digit).
To disable a phone number, enter *5 as the first digit. The underscore "_" will be displayed
To delete the phone number from the display window, enter *5 in all the digits.

9.18 Address 023 - Dial Attempts

Dial Attempts determines the maximum number of times the control panel will attempt to contact the central station on each programmed phone number before a Comm. Fail is alerted.

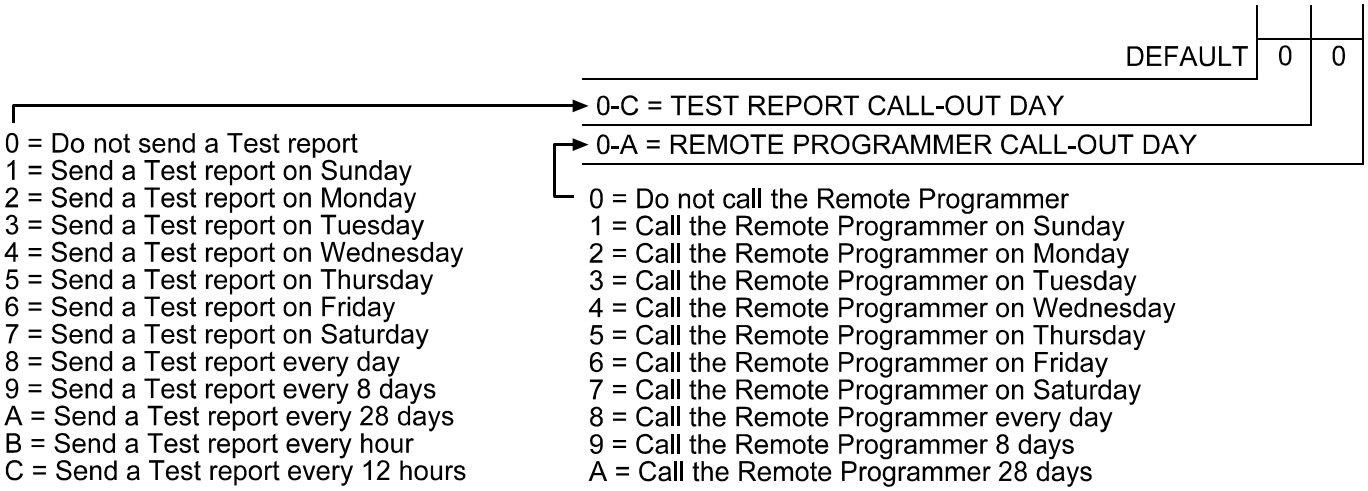
NOTE After all dial attempts are made, the panel will log a communications failure. It will then wait 30 minutes and attempt to dial again repeating the programmed number of attempts. If it still fails to connect the panel will then wait 24 hours and make another attempt. It will continue to attempt to dial once every 24 hours after that until it is successful.

Example: If Address 023 is programmed for 003 (3 dial attempts), the panel will try 3 times to connect. If all 3 attempts fail, the panel will log the communications failure, wait 30 minutes and try again making 3 more attempts to dial. If the second round of 3 attempts fails, the panel will wait 24 hours and try again making another 3 attempts to dial. It will continue trying to connect every 24 hours afterward making 3 attempts each time.



PSTN Warning Notice: Under certain adverse conditions on the Public Switched Telephone Network (PSTN), some control/communicators may require more than two dial attempts to reach the central station receiver. To guard against such a situation, it is recommended that the Dial Attempts be set to a value between 3 and 10.

9.19 Address 024 - Auto Test / Remote Programmer Call-Out Day


DEFAULT 0 0
0-C = TEST REPORT CALL-OUT DAY
0-A = REMOTE PROGRAMMER CALL-OUT DAY
0 = Do not send a Test report
1 = Send a Test report on Sunday
2 = Send a Test report on Monday
3 = Send a Test report on Tuesday
4 = Send a Test report on Wednesday
5 = Send a Test report on Thursday
6 = Send a Test report on Friday
7 = Send a Test report on Saturday
8 = Send a Test report every day
9 = Send a Test report every 8 days
A = Send a Test report every 28 days
B = Send a Test report every hour
C = Send a Test report every 12 hours
0 = Do not call the Remote Programmer
1 = Call the Remote Programmer on Sunday
2 = Call the Remote Programmer on Monday
3 = Call the Remote Programmer on Tuesday
4 = Call the Remote Programmer on Wednesday
5 = Call the Remote Programmer on Thursday
6 = Call the Remote Programmer on Friday
7 = Call the Remote Programmer on Saturday
8 = Call the Remote Programmer every day
9 = Call the Remote Programmer 8 days
A = Call the Remote Programmer 28 days

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9.20 Address 025 - Auto Test / Remote Programmer Call-Out Time

DEFAULT	000	000	000	000
000-023 = AUTO TEST CALL OUT HOUR				
000-059 = AUTO TEST CALL OUT MINUTE				
000-023 = REMOTE PROGRAMMER CALL OUT HOUR				
000-059 = REMOTE PROGRAMMER CALL OUT MINUTE				

NOTE If "Send a Test report every hour" was selected in Address 024, setting the "Auto Test Call-Out Hour/Minute will have no affect on the call out time. The hourly Auto Test will occur within a few minutes after the start of each hour as defined by the panel's date and time set in the master user menu.

NOTE This feature requires the panel's date and time to be set.

9.21 Address 026 - AC Report Delay

The AC Failure report can be programmed to delay for up to 255 minutes (the restoral report can also be delayed up to 255 minutes).

- If another report is sent during this delay period, the AC Fail report will be sent along with this report.
- If the AC power restores during this delay period, the AC Fail report will not be sent.

DEFAULT	000
000-255 AC FAILURE REPORT DELAY IN MINUTES	

9.22 Address 027 - History Controls

History Controls determines what events are stored in the panel's event history.

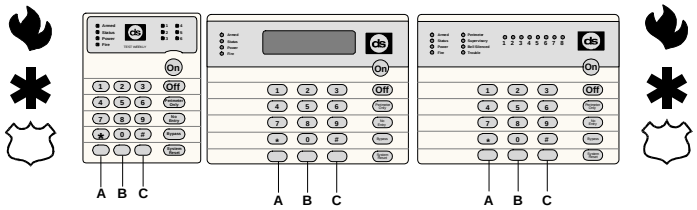
DEFAULT	1	1	1	1	1	1	1	1
BURGLAR ALARMS 0 = No 1 = Yes								
FIRE ALARMS 0 = No 1 = Yes								
KEYPAD ALARMS 0 = No 1 = Yes								
ZONE TROUBLES / RESTORALS 0 = No 1 = Yes								
SYSTEM TROUBLES / RESTORALS 0 = No 1 = Yes								
OPEN / CLOSE 0 = No 1 = Yes								
BYPASS / UNBYPASS 0 = No 1 = Yes								
LOCAL / REMOTE PROGRAMMING 0 = No 1 = Yes								

9.23 Address 028 - Special Keys

This address is used to determine the alarm output when the emergency keys are pressed.

0 = Disabled
1 = Invisible
2 = Steady Audible
3 = Pulsing Audible

DEFAULT	0	0	0
FIRE KEY [A]			
SPECIAL EMERGENCY KEY [B]			
PANIC KEY [C]			



WARNING

The Fire key is disabled if programmed as invisible.

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9.24 Addess 029 - Keypad Reports

Keypad Reports are programmed for the value you wish to send to the central station when the emergency keys are pressed.

Two Digits, 00 through FF

	DEFAULT	KEYPAD FIRE REPORT	KEYPAD FIRE RESTORAL REPORT	KEYPAD EMERGENCY ALARM REPORT	KEYPAD PANIC ALARM REPORT	KEYPAD TAMPER REPORT	KEYPAD TAMPER RESTORAL REPORT
	00	00	00	00	00	00	00

9.25 Address 030, 031, 032, 033 - Zone Type

IMPORTANT

If Zone 1 is a fire zone, then the PO2 output must be set for "On for 8 seconds after entering [System Reset]" See Address 009.

0 = Disabled
1 = Perimeter Instant
2 = 24 Hour
3 = Entry/Exit Delay # 1
4 = Entry/Exit Delay # 2
5 = Interior Entry/Exit Follower
6 = Interior Home/Away
7 = Interior Instant
8 = Day Monitor
9 = Keyswitch Toggle NOTE
A = Keyswitch ON/OFF NOTE
B = Fire Zone with Verification
C = Fire Zone without Verification
D = Interior Delay
E = Perimeter Homeguard
F = Perimeter Follower Homeguard

NOTE If programming a Keyswitch Zone, see Address 038-041 - Output Type for programming to select if force arming is allowed.

Program Address 030

	DEFAULT	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
	3	4	1	5	6	7	2	3	

Program Address 031

	DEFAULT	ZONE 9	ZONE 10	ZONE 11	ZONE 12	ZONE 13	ZONE 14	ZONE 15	ZONE 16
	0	0	0	0	0	0	0	0	

Program Address 032

	DEFAULT	ZONE 17	ZONE 18	ZONE 19	ZONE 20	ZONE 21	ZONE 22	ZONE 23	ZONE 24
	0	0	0	0	0	0	0	0	

Program Address 033

	DEFAULT	ZONE 25	ZONE 26	ZONE 27	ZONE 28	ZONE 29	ZONE 30	ZONE 31	ZONE 32
	0	0	0	0	0	0	0	0	

- **Disabled:** These zones are not monitored, and will not generate alarm or trouble conditions.
- **Perimeter Instant:** These zones arm and disarm with the panel, and never have entry or exit delays. Violation of this type of zone will cause an intrusion alarm.
- **24-Hour:** This is a zone programmed to activate when its loop is faulted, even if the system is disarmed. An alarm on a 24-hour zone (fire or intrusion) will be silenced by entering a disarm code whether the control is armed or not. If the 24-hour zone restores and alarms again the alarm will sound again. 24-hour zones may generate trouble conditions during armed or disarmed periods. All 24-hour zones that have alarmed and are not restored will show as "Not Ready." They will prevent arming unless the panel is force armed. 24-hour zones that have been bypassed manually will remain so until manually unbypassed, even if the control is armed and disarmed. Bypasses of these zones will be displayed on the keypad.

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- **Entry/Exit Delay #1:** A delayed zone is ignored during the programmed times immediately following arming during the exit delay. If the zone is faulted while the control is armed and not in exit delay then an entry delay cycle will be started, and a continuous entry tone will be sounded at the keypads. If the control is not disarmed by the end of the entry delay, an alarm will result. There are no keypad tones during the exit delay unless the feature "Keypad Audible During Exit Delay" is selected. Refer to Section 9.9, Address 009. If an entry delay is running and another entry delay zone is faulted, the entry delay timer is unaffected and will continue timing from the first entry. The entry delay time and exit delay time can be set independently.

  If a delayed zone remains faulted at the end of an exit delay, the panel will optionally signal an exit error condition. The entry delay will begin as above, and the alarm output will activate with the pattern selected for that zone. If the control is not disarmed by the end of the entry delay, an alarm will result, and an exit error report will be sent to the central station (following the alarm report if programmed). The alarm output will deactivate. If the control is disarmed during the delay period started by the exit error condition, no reports will be sent to the central station and any outputs on during the exit error will deactivate. The exit error report does not follow the dialer delay option.
- **Entry/Exit Delay #2:** Works in the same manner as the Entry/Exit Delay #1 zone, except that it uses Entry Delay Time #2.
- **Interior Entry/Exit Follower:** This is a zone programmed to be ignored during an entry/exit delay and then becomes an interior instant zone. If this zone is violated while the system is armed and no entry/exit zones have been violated, it will activate an instant alarm. If this zone is violated after an entry/exit delay zone is violated, it will be ignored for the duration of the entry/exit delay time. This zone is bypassed when arming only the perimeter.
- **Interior Home/Away:** This zone becomes an active interior entry/exit follower when the system is armed and an entry/exit delay zone is violated during the exit delay time.
- **Interior Instant:** These zones arm and disarm with the panel. They are not active if the panel is armed in the "perimeter only" mode. They never have entry or exit delays. Violation of this type of zone will cause an intrusion alarm.
- **Day Monitor:** This is a perimeter instant zone that activates alarm outputs when the system is armed, but only activates the keypad sounders when the system is disarmed. When the system is disarmed, any violation of this zone will activate the keypad sounders which will sound continuously until a disarming command is entered. The alarm outputs will not operate. A trouble report (if programmed) will be sent to the central station.
- **Keyswitch Toggle:** Each time this zone is closed, it will toggle the armed state of the panel. It has a 300 ms response time. To support this feature, the keypads will generate a single beep for arm or disarm actions.

In a partitioned system, do not assign common zones if the keyswitch toggle feature will be used. Arming/Disarming from a keypad by users with access to both partitions will cause the keyswitch partition to toggle between Armed and Disarmed. If keyswitch operation is desired in a partitioned system, avoiding the use of keypads is recommended.

NOTE If "Force Arming for Keyswitch Zones" is enabled (Address 038-041), Keyswitch Toggle will force arm a "Not Ready" zone.

- **Keyswitch On/Off:** When this zone is closed, it will arm the panel. When it is shunted by an EOL (supervised), the panel will be disarmed. Opening the zone will not affect the arming state of the control. When this option is selected, keypads can not be used to arm or disarm the system unless the keyswitch zone is manually bypassed, prior to arming the system, from the keypad. If the keyswitch zone is bypassed, any keypad can perform all arming and disarming functions.

Only one keyswitch on/off zone is allowed per system. Do not use on partitioned systems. Keypads cannot be used on a system with the keyswitch on/off feature selected.

NOTE If "Force Arming for Keyswitch Zones" is enabled (Address 038-041), Keyswitch On/Off will force arm a "Not Ready" zone.

- **Fire Zone with Verification:** If a fire zone alarms and it is programmed for verification, the control will interrupt the programmable output(s) set as a switched power return for 10 seconds. During the 10 second power interruption, and for 15 seconds after power restoral, it will ignore all zone status on all fire zones (to ignore inrush currents). After fifteen seconds, it will monitor all fire zones for two minutes. If any fire zone returns to alarm within the two minute window it will create a fire alarm condition. If a fire zone does not go into alarm within the two minute window it will disregard the initial trip. If another alarm occurs on a fire zone with verification after the two minutes, it will start the process over. After any fire zone is in alarm, all subsequent fire zones are treated as instant (no verification) until the next fire reset. This same procedure will be performed when a [SYSTEM RESET] is entered, except that the two minute instant alarm monitoring period is not observed.

  Since alarm and trouble reporting to the central station for fire zones is the same as for burg zones (i.e. it is based on the state of the zone) it is possible for Fire and Fire Trouble restoral signals to be transmitted even though the panel may still be displaying these zone conditions. This is because the displays are latched until cleared by an operator action.

NOTE The use of the controls fire alarm verification feature may not be permitted in some areas. Check your local fire/building codes.

- **Fire Zone without Verification:** This zone is active and will alarm all 24 hours of the day regardless of the arming state of the control. An alarm on a fire zone will be silenced by entering a disarm code whether the control is armed or not. If the fire zone restores and alarms again the alarm will sound again. An open during the armed or disarmed period will send a trouble report and not an alarm. Fire zones are never silent, invisible, or swinger shunted. All fire zones that have alarmed will continue to show on all keypads until a fire reset is performed, even if they have physically restored. Fire zones may not be manually bypassed or force bypassed.

NOTE If force arming is enabled (see Programming Address 002), force arming is possible when the fire zone is violated (shorted).

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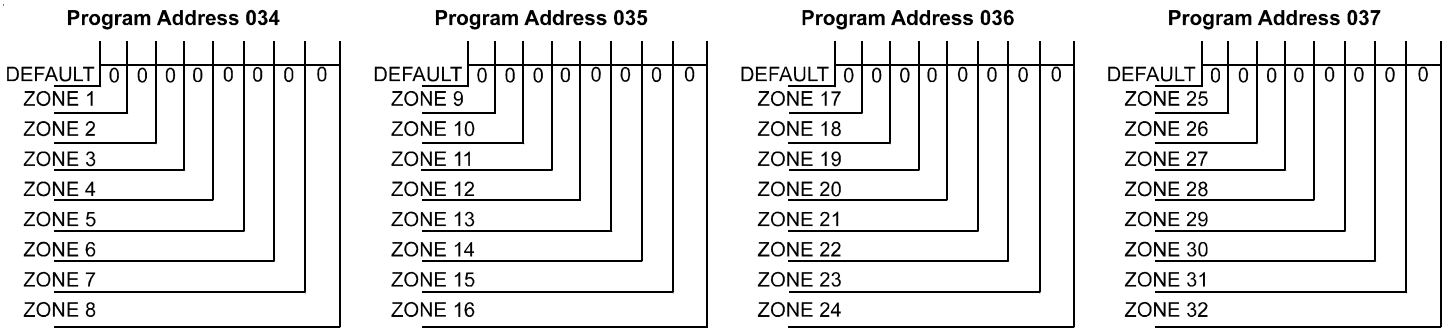
- **Interior Delay:** This interior zone follows Entry Delay Time #1 (Address 010) during normal arming. When arming using the “No Entry” button, this zone becomes an interior instant.
- **Perimeter Homeguard:** This zone type is active when the panel is armed. When the panel is armed perimeter only, this acts like an Entry/Exit Delay #1. When armed full, this is an instant zone.
- **Perimeter Follower Homeguard:** These zones act like an Entry/Exit Delay #1 zone when the panel is armed in the perimeter only mode. When the panel is fully armed, these zones are ignored during the entry/exit delay time if this zone or an instant zone is violated first.

9.26 Address 034, 035, 036, 037 - Zone Action

0 = Alarm on Short, Alarm on Open (Default)

1 = Alarm on Short, Trouble on Open

2 = Alarm on Open, Trouble on Short



9.27 Address 038, 039, 040, 041 - Output Type

For Intrusion and Fire Zones only:

0 = Invisible (not valid for Fire Zones)

1 = Silent (not valid for Fire Zones)

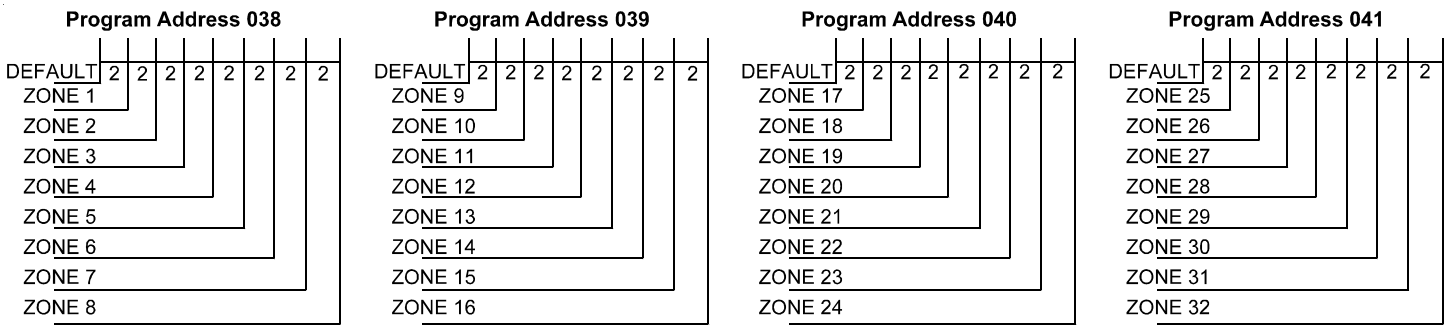
2 = Steady Alarm Output (Default)

3 = Pulsing Alarm Output

For Keyswitch Zones Only:

0 = Keyswitch does not allow Force Arming

1 = Keyswitch allows Force Arming



- **Invisible:** This is a zone programmed **not** to have an alarm output or an alarm display at any keypad when activated. An alarm signal will be sent, but the keypad display will not indicate an alarm while this zone is violated. Invisible alarm zones are recommended for holdup alarms.
- **Silent:** This is a zone programmed to activate the visual display at the kaypad, but **not** audible signals. If this zone is also an entry zone, an entry tone will sound when this zone is activated.
- **Steady:** When this zone alarms the Alarm Output will come on steady, unless it is already pulsing, in which case it will remain pulsing.
- **Pulsing:** The pattern for the pulsing audible output is determined by the Fire Alarm Cadence as set in Address 009. When zones are tripped which could cause both pulsing and steady outputs, the pulsing output will prevail. The alarm outputs will continue to be activated until the bell cutoff timer times out or is reset, then they will silence.
- **Keyswitch does not allow Force Arming:** The system will not arm if any zones are in the “Not Ready” condition.
- **Keyswitch allows Force Arming:** The system will be allowed to arm by automatically bypassing “Not Ready” zones. The Force Arming only works on zones that are set as Bypassable in Address 042-045. The “Force Arm Limit”, set in Address 002, will be ignored when arming with keyswitches.

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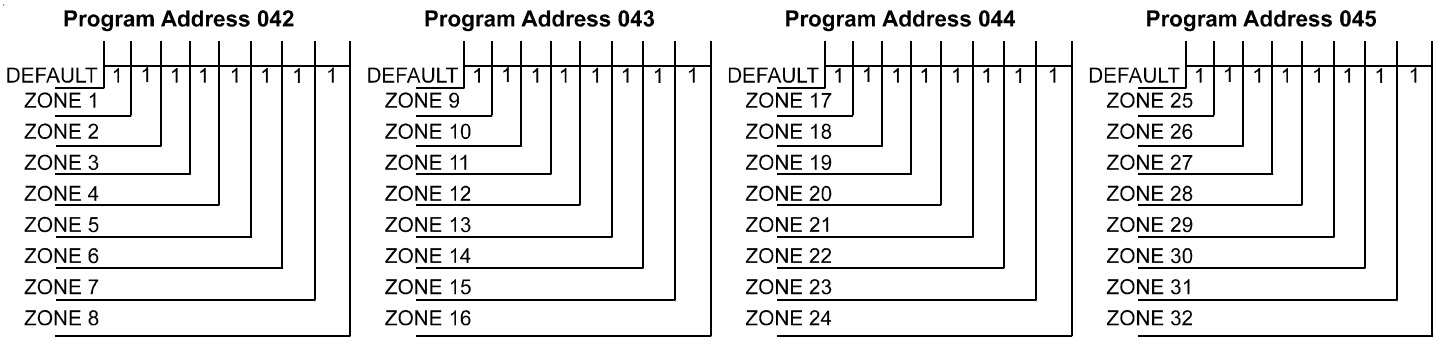
9.28 Address 042, 043, 044, 045 - Zone Bypass

This determines whether the user can bypass the zone. Zones programmed for bypassing can be bypassed even when in alarm. Fire zones will not be bypassable, even if programmed as bypass allowed.

0 = No Bypassing Allowed

1 = Bypassing Allowed (Default)

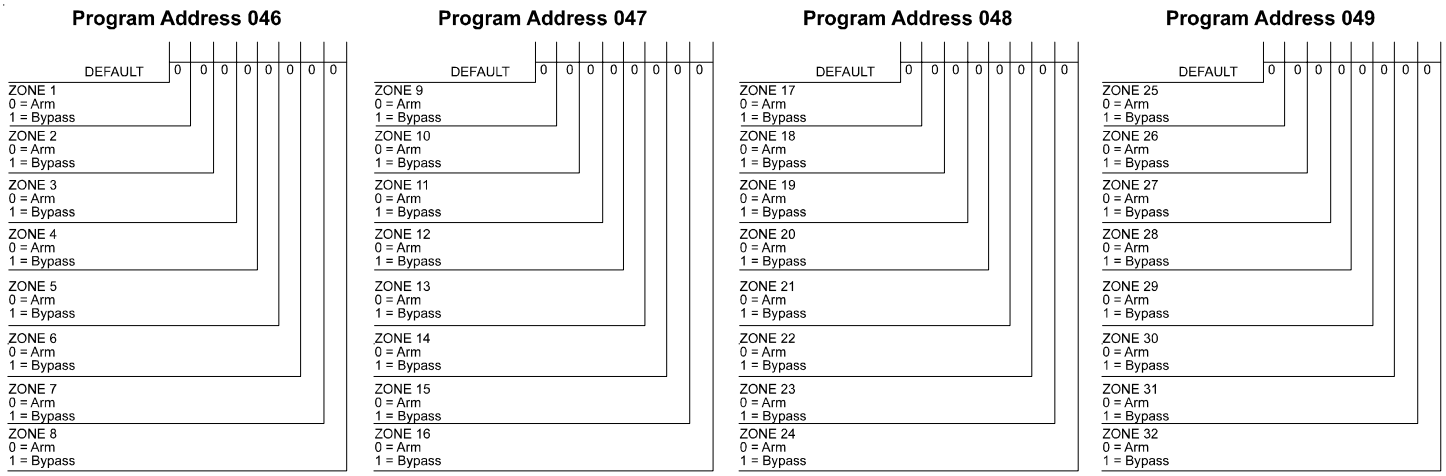


9.29 Address 046, 047, 048, 049 - Custom Arming

Custom Arming Programming allows the [#] [4] key sequence on the keypad to be used for custom arming. The programming determines which zones will be bypassed (not armed) during custom arming.

IMPORTANT

Zones programmed as “No Bypassing Allowed” and Fire zones cannot be bypassed when custom arming.


Program Address 046
DEFAULT 0 0 0 0 0 0 0 0
ZONE 1 0 = Arm 1 = Bypass
ZONE 2 0 = Arm 1 = Bypass
ZONE 3 0 = Arm 1 = Bypass
ZONE 4 0 = Arm 1 = Bypass
ZONE 5 0 = Arm 1 = Bypass
ZONE 6 0 = Arm 1 = Bypass
ZONE 7 0 = Arm 1 = Bypass
ZONE 8 0 = Arm 1 = Bypass
Program Address 047
DEFAULT 0 0 0 0 0 0 0 0
ZONE 9 0 = Arm 1 = Bypass
ZONE 10 0 = Arm 1 = Bypass
ZONE 11 0 = Arm 1 = Bypass
ZONE 12 0 = Arm 1 = Bypass
ZONE 13 0 = Arm 1 = Bypass
ZONE 14 0 = Arm 1 = Bypass
ZONE 15 0 = Arm 1 = Bypass
ZONE 16 0 = Arm 1 = Bypass
Program Address 048
DEFAULT 0 0 0 0 0 0 0 0
ZONE 17 0 = Arm 1 = Bypass
ZONE 18 0 = Arm 1 = Bypass
ZONE 19 0 = Arm 1 = Bypass
ZONE 20 0 = Arm 1 = Bypass
ZONE 21 0 = Arm 1 = Bypass
ZONE 22 0 = Arm 1 = Bypass
ZONE 23 0 = Arm 1 = Bypass
ZONE 24 0 = Arm 1 = Bypass
Program Address 049
DEFAULT 0 0 0 0 0 0 0 0
ZONE 25 0 = Arm 1 = Bypass
ZONE 26 0 = Arm 1 = Bypass
ZONE 27 0 = Arm 1 = Bypass
ZONE 28 0 = Arm 1 = Bypass
ZONE 29 0 = Arm 1 = Bypass
ZONE 30 0 = Arm 1 = Bypass
ZONE 31 0 = Arm 1 = Bypass
ZONE 32 0 = Arm 1 = Bypass

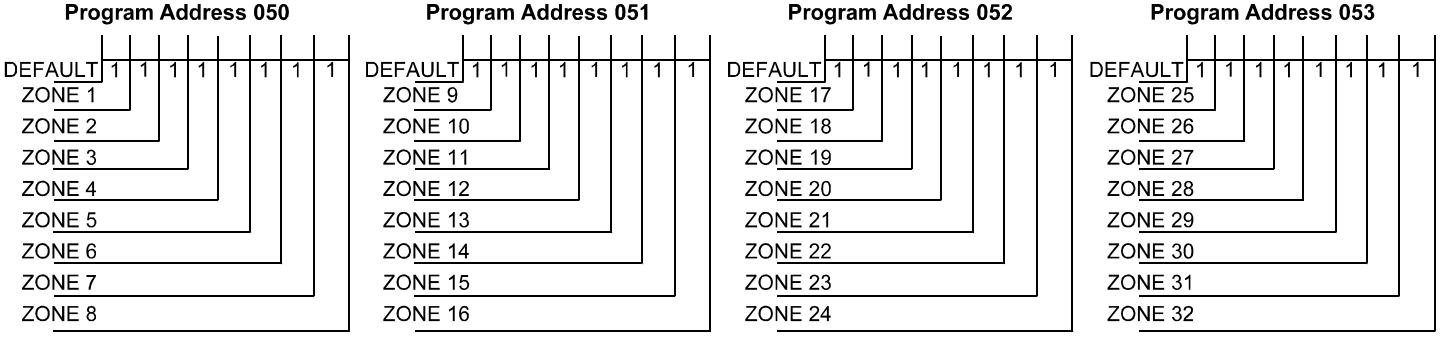
9.30 Address 050, 051, 052, 053 - Zone Partition Assignment

Zone Partition Assignment is used to determine what Zones belong to which Partition. You may choose Partition 1, Partition 2 or both Partitions for common zones.

1 = Partition 1 2 = Partition 2 3 = Partition 1 & 2

IMPORTANT

“Enable 2 Partitions” must be set in Address 002, digit 6, prior to Zone Partition Assignment.



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REPORTS

IMPORTANT

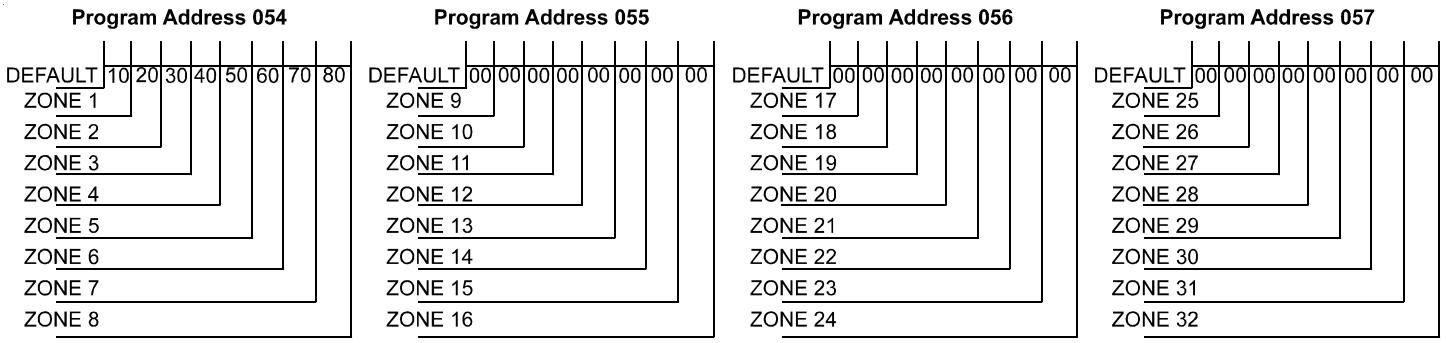
If a value of 00 is programmed in any of these locations the panel will not send that particular report.

- **Pulsed Formats** (3/1, 3/1E, 3/1 with Parity, 3/1E with Parity, 4/1, 4/2 and BFSK) will need a unique value placed at each address location. The digits that is furthest to the left in each location is the primary reporting digit. As a recommendation for the pulsed formats, the table in Section 11.3 “Suggested Values” gives a baseline from which to program the various addresses. Please note that each Central Station receiver differs slightly in the report codes that it expects. Therefore, it is best to verify the codes you use with the Central Station.

  Some of the reports that can be sent, such as OPEN, CLOSE, PARTIAL CLOSE can send an associated User Number as the second digit. To accomplish this, program an F (*5) as the second digit in the program location. When the report is sent the panel will replace the F with the appropriate user number. (User numbers 15 to 24 will only send 15.) Pulsed formats 3/1, 3/1 with parity, and 4/1 need a 0 for the second digit and cannot send user numbers. If 4/1 is selected, placing a digit other than 0 in the second digit will force the communicator to change to a 4/1E format. A non-zero in the second digit location indicates an extended 3/1E, 3/1E w/parity or 4/2 format.
- **Fixed Report Formats** (Contact ID, SIA, High Speed 4/9) have well defined reports that are sent regardless of the value programmed in the report code location. Any non-zero value programmed in the (left) reporting digit will send the appropriate report. Refer to Section 12.0 for a list of reports that are possible to send based on the report program locations.
- **Special Formats** (Personal Dialing Format, Pager) are not recommended for primary reporting. If they are used, Personal Dialing Format could use the same report codes as the Pulsed Formats. Pager has a limitation in that it can’t use the Hex values A (*0), B (*1), C (*2), D (*3), E (*4), F (*5). These values can not be passed on to a Numeric Pager. See Section 11.1 “Suggested Values” for some suggested report values for the Pager format.

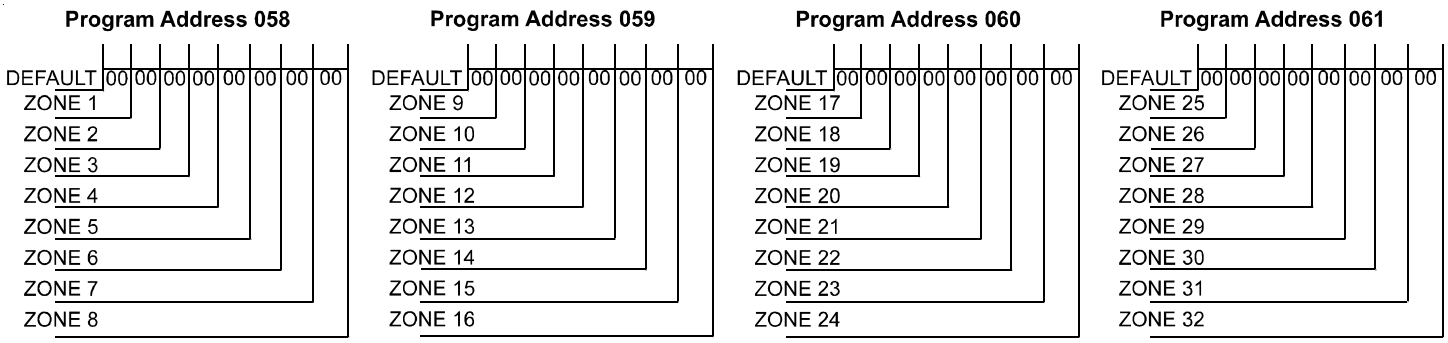
9.31 Addresses 054, 055, 056, 057 - Zone Alarm Reports

Two Digits, 00 through FF



9.32 Addresses 058, 059, 060, 061 - Zone Restoral Reports

Two Digits, 00 through FF



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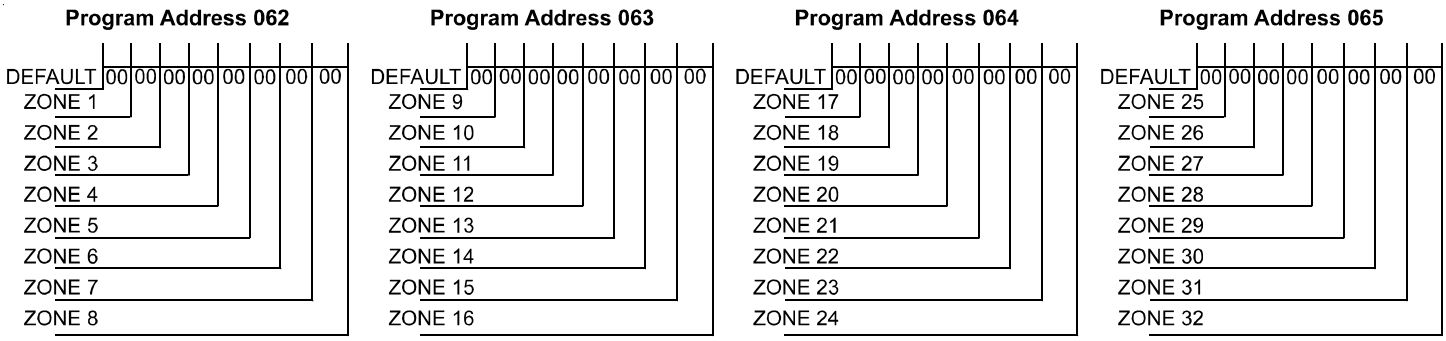
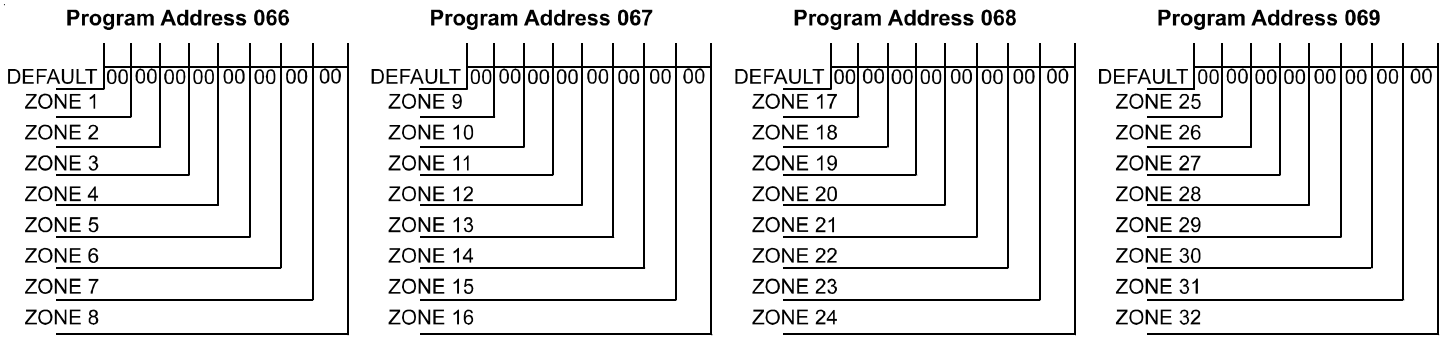
9.33 Addresses 062, 063, 064, 065 - Zone Trouble Reports

Two Digits, 00 through FF



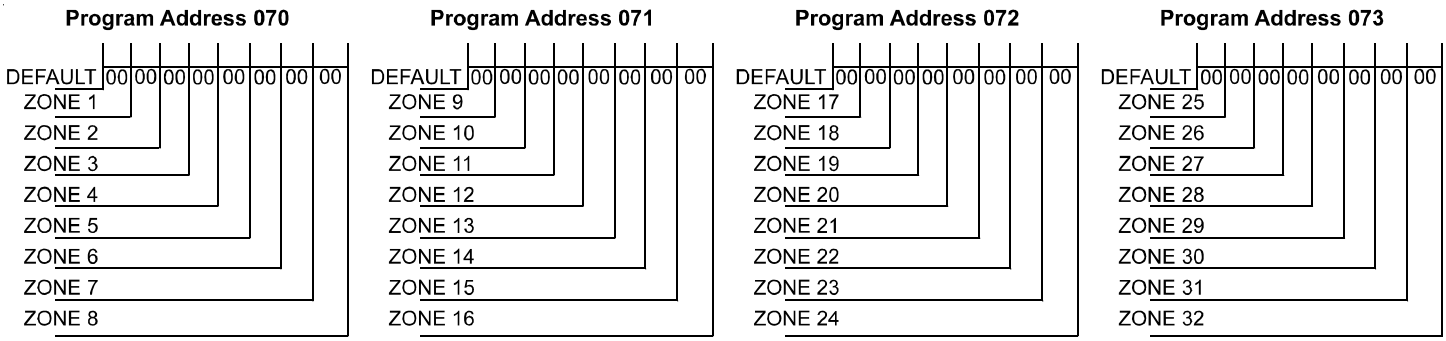
9.34 Addresses 066, 067, 068, 069 - Trouble Restoral Reports

Two Digits, 00 through FF



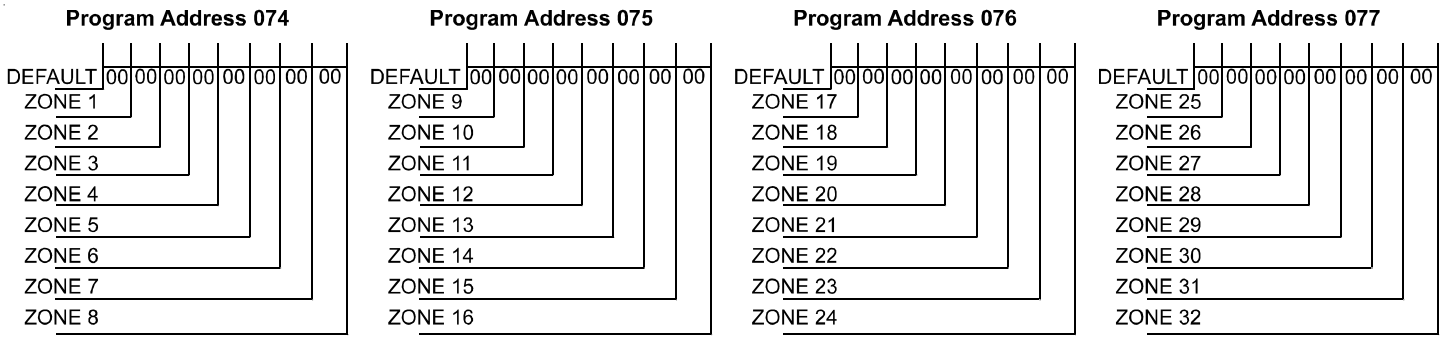
9.35 Addresses 070, 071, 072, 073 - Zone Bypass Reports

Two Digits, 00 through FF



9.36 Addresses 074, 075, 076, 077 - Bypass Restoral Reports

Two Digits, 00 through FF



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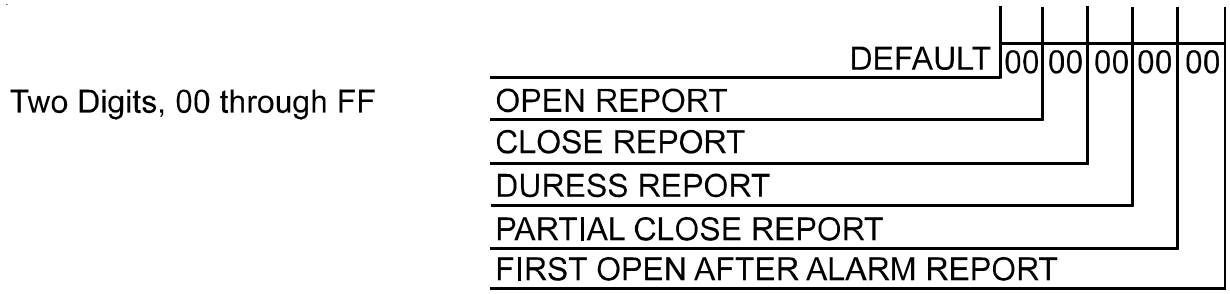
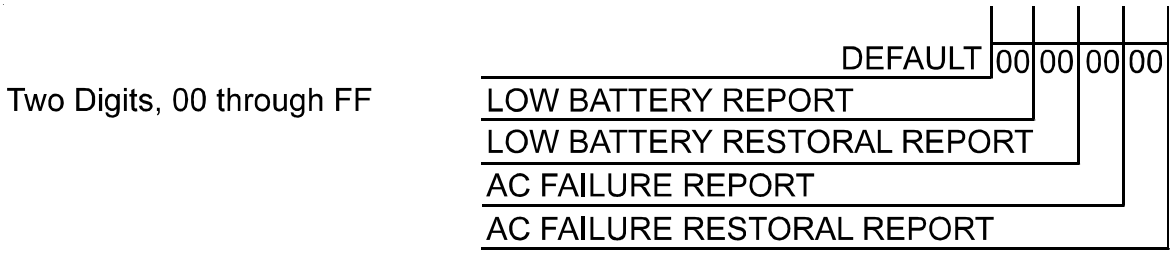
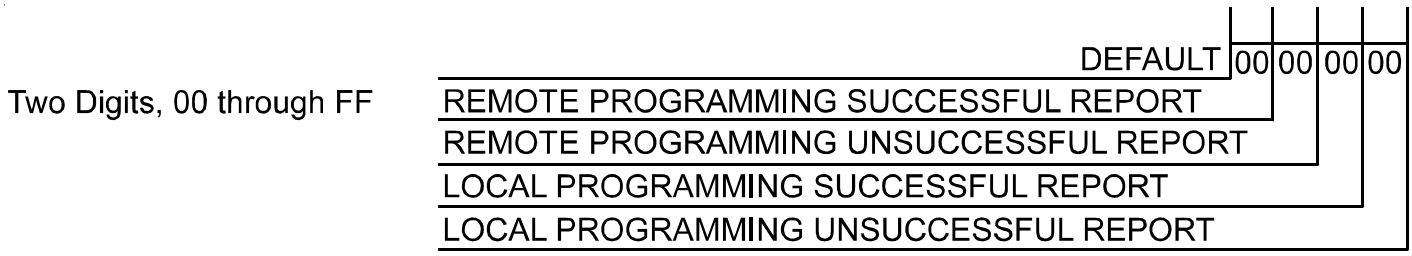
9.37 Address 078 - Open/Close Reports



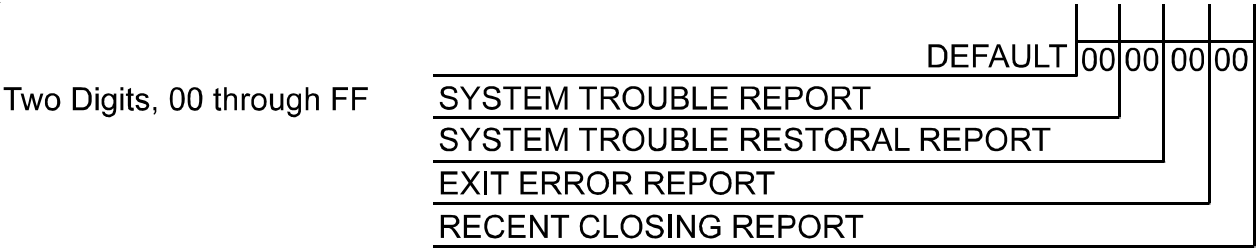
9.38 Address 079 - AC/Battery Reports


Two Digits, 00 through FF
DEFAULT 00 00 00 00
LOW BATTERY REPORT
LOW BATTERY RESTORAL REPORT
AC FAILURE REPORT
AC FAILURE RESTORAL REPORT

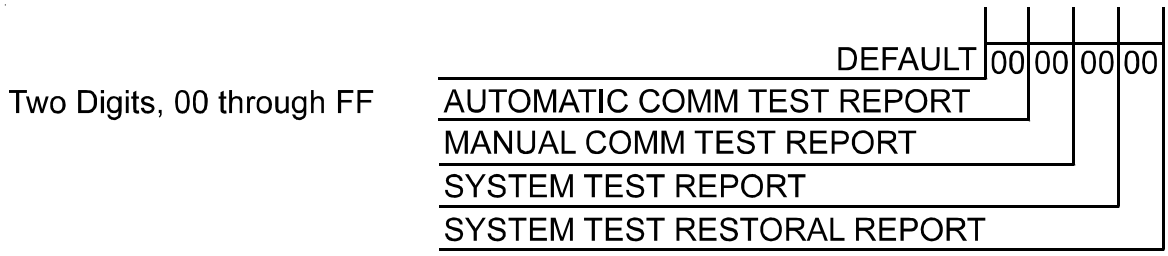
9.39 Address 080 - Remote/Local Programming Reports


Two Digits, 00 through FF
DEFAULT 00 00 00 00
REMOTE PROGRAMMING SUCCESSFUL REPORT
REMOTE PROGRAMMING UNSUCCESSFUL REPORT
LOCAL PROGRAMMING SUCCESSFUL REPORT
LOCAL PROGRAMMING UNSUCCESSFUL REPORT

9.40 Address 081 - Exit Error, Recent Closing, System Trouble, System Trouble Restoral Reports



9.41 Address 082 - Test Reports


Two Digits, 00 through FF
DEFAULT 00 00 00 00
AUTOMATIC COMM TEST REPORT
MANUAL COMM TEST REPORT
SYSTEM TEST REPORT
SYSTEM TEST RESTORAL REPORT

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9.42 Address 083 - 116 - Alpha Labels

Hint: To get an Address Location for a zone number, use the following:

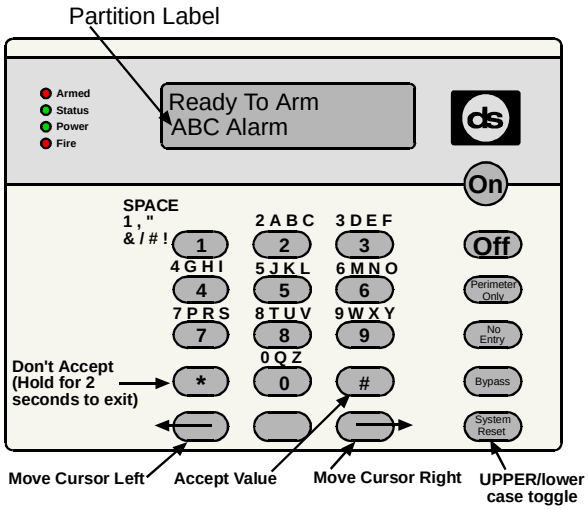
Zone # + 84 = Address #

Examples:

Zone 9 + 84 = Address 093

Zone 20 + 84 = Address 104

Address 083 - Partition 1 Label
Address 084 - Partition 2 Label
Address 085 - Zone 1 Alpha Label
Address 086 - Zone 2 Alpha Label
Address 087 - Zone 3 Alpha Label
Address 088 - Zone 4 Alpha Label
Address 089 - Zone 5 Alpha Label
Address 090 - Zone 6 Alpha Label
Address 091 - Zone 7 Alpha Label
Address 092 - Zone 8 Alpha Label

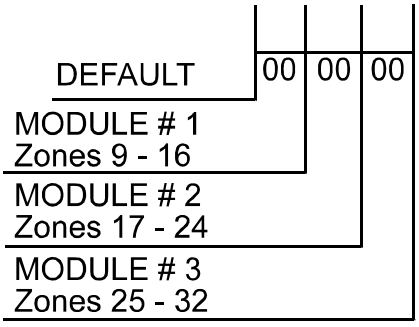


Example: To program “ABC Alarm” as the Private Label for Partition 1

Enter the Programmer’s Mode:	[[9] [8] [7] [6] [#] [0] (or [9] [8] [7] [6] [5] [4] [#] [0] if six digit codes are selected)
Enter the Program Address:	[0] [8] [3] followed by [#]
Enter:	[2] for the letter “A” then press the right arrow key to continue with the next letter
Enter:	[2] twice for the letter “B” the press the right arrow key for the next letter
Enter:	[2] three times for the letter “C” then press the right arrow key for the next letter
Enter:	[1] until you have a blank space (Note: Moving the cursor to the left does not create a space. Spaces must be programmed into the Alpha using the [1] key)
Enter:	[2] for the letter “A” then press the right arrow key for the next letter
Enter:	[System Reset] The “System Reset” key is the UPPER/lower case toggle
Enter:	[5] three times for the letter “l” then press the right arrow key for the next letter
Enter:	[2] for the letter “a” then press the right arrow key for the next letter
Enter:	[7] twice for the letter “r” then press the right arrow key for the next letter
Enter:	[6] for the letter “m”
Enter:	[#] Program the next address, program a different address or exit the Programmer’s Mode.

9.43 Address 117 - Point Expansion Module Missing Report

Two Digits 00 - FF



9.44 Address 118 - Point Expansion Module Missing Restoral Report

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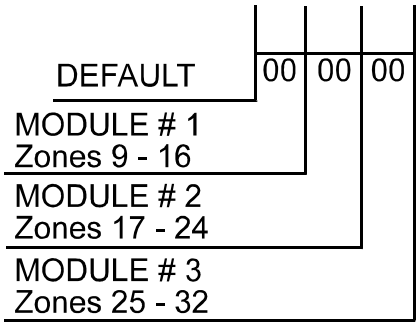
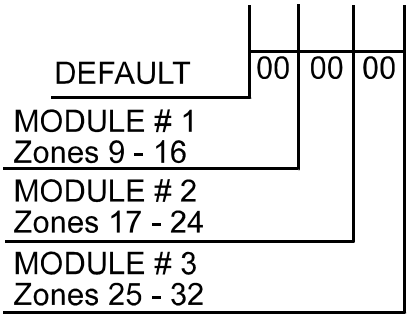
Two Digits 00 - FF



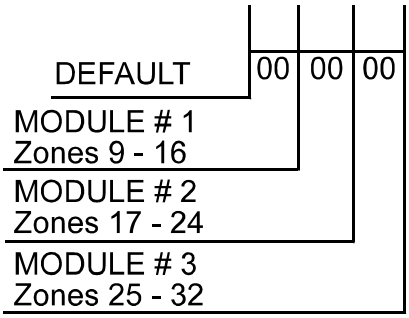
9.45 Address 119 - Point Expansion Module Tamper Report

Two Digits 00 - FF



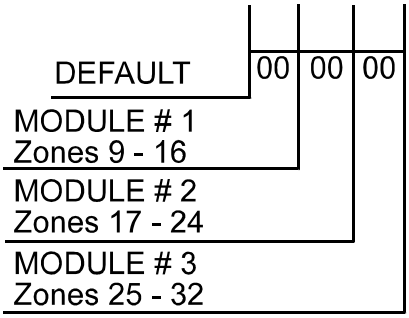
9.46 Address 120 - Point Expansion Module Tamper Restoral Report

Two Digits 00 - FF



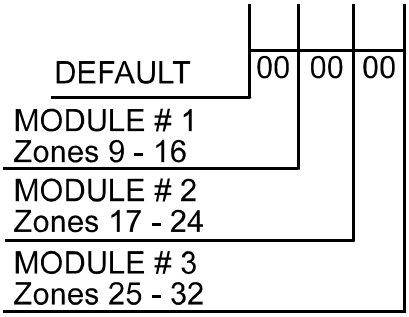
9.47 Address 121 - Point Expansion Module Fault Report

Two Digits 00 - FF



9.48 Address 122 - Point Expansion Module Fault Restoral Report

Two Digits 00 - FF



9.49 Address 123 - Octal Relay Control and Reports

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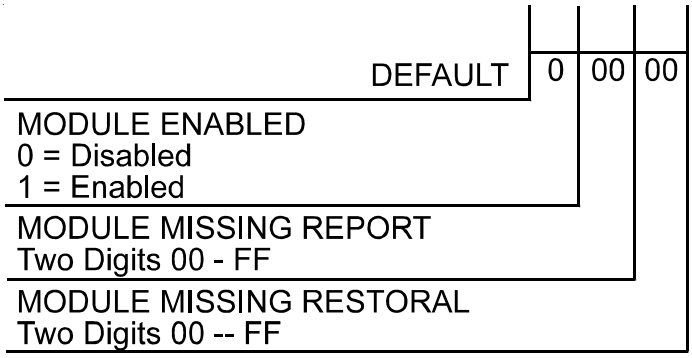

9.50 Address 124 - Default Programming

Defaulting the control panel will result in the loss of all custom programming. This includes Zone programming, Report programming, Keypad programming (only the keypad set as Option Bus Address 1 will function), Alpha programming, Telephone numbers and Account codes. **If the digit 1 is entered into Address 124 all programming information will be lost and cannot be recovered.**

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10.0 Installation Guide for UL Listed Systems

10.1 DS7080iP-32 UL Listings:

- Household Fire Alarm, UL Standard UL985
- Household Burglary Alarm, UL Standard UL1023
- Police Station Connection Grades AA and A, UL Standard UL365
- Central Station Burglary Alarm Grades AA, A, B, and C; UL Standard UL1610

The control panel should be installed in accordance with UL Standard UL681, Installation and Classification of Mercantile and Bank Burglar Alarm Systems, or UL Standard UL1641, Installation and Classification of Residential Burglar Alarm Systems. It should also be installed in accordance with NFPA 72 for Household installations. This panel has not been investigated to the requirements of UL294 (Access Control).

10.1.1 The following table shows the DS7080iP-32 system configuration for the various types of fire and burglar alarm service for which the products are UL Listed.

Product	U.L. Application					
	CSB-A	CSB-B/C	LB-A	PSCB-D-A	PSCB-DR-A	HF/B
DS7080iP-32	R	R	R	R	R	R
Standard Enclosure	n/a	n/a	n/a	n/a	n/a	1
AE7080iCC Attack Enclosure	R	R	R	R	R	1
DS7445	2	2	2	2	2	2
DS7447	2	2	2	2	2	2
DS7480	n/a	n/a	n/a	n/a	n/a	R
Spectrum PAL200	R	n/a	n/a	n/a	R	n/a
AB-12 Bell/Housing	R	R	R	R	R	n/a

Key to Application Codes

CSB-A = Central Station Burglary, grades AA and A
CSB-B/C = Central Station Burglary, grades B and C
LB-A = Local Burglary, grade A
PSCB-D-A = Police Station Connected Burglary w/DACT, grade A
PSCB-DR-A = Police Station Connected Burglary w/Derived Channel, grades AA and A
HF/B = Household (residential) Fire and Burglary

Configuration Codes

R = Required
n/a = Not Applicable
1 = Standard or attack enclosure may be used.
2 = Either keypad may be used, at least one keypad is required.

10.2 Installation Considerations

- In order to meet UL requirements, the system must be configured as described in Section 10.
- The maximum standby battery capacity is 21 AH @ 12 VDC.
- The total nominal current must not exceed 1.2 A in alarm and 200 mA in standby.
- The control must be mounted indoors and within the protected area.
- Enclosure tamper switches (if used) must be connected to a 24-hour zone.
- Grounding must be in accordance with article 250 of the NEC (NFPA 70).
- At least one UL Listed keypad with zone display must be connected.
- Zones must be connected to UL Listed, compatible devices.
- 50 Hz. AC input cannot be used for UL Listed Requirements.
- The ground wire provided with the enclosure must be connected between the “Earth GND” connection on the control and the enclosure tab.
- The keypad panic alarm output must follow the corresponding zone’s programming (e.g. fire = 3-pulse temporal pattern, burglary = steady). In all cases, the special emergency keys must be silent.
- The ground start feature shall not be programmed.
- The Pager report format must not be employed. Alarm outputs must not be delayed.
- Remote programming has not been investigated by UL.

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10.2.1 Special Requirements for Partitioned Systems

- The control unit and burglar alarm signal are intended to be installed in one premesis, under one management, one ownership and one address which is then partitioned.
- The indicating device (bell) must be placed where it can be heard by all partitions.
- The local commercial burglar alarm indicating device must be installed in an area where the Audible Test can be heard by any of the users in the different partitions.
- The commercial local control unit should be protected by either being lined and connected to a 24 hour burglar alarm circuit or they shall be in a protected area which is armed 24 hours a day. In either case the zone which is protecting the control unit and power supply must be programmed not to be bypassed.
- Remote programming must not be used to disarm the system.

10.3 Programming the DS7080iP-32

When used for UL Listed Requirements, the control must conform to certain programming requirements. The following is a list of the required program entries and required accessories for specific UL Listed Requirements.

10.3.1 Household Fire Alarm

Household Fire Alarm using Digital Alarm Communicator Transmitter with local bell. The control must be installed in accordance with NFPA 72.

Required Accessories:

- At least one Detection Systems' model DS250 Series smoke detector with an MB Series base, or another Listed compatible smoke detector.
- At least one DS7480 Bell Supervision Module.
- One Wheelock 46T-G10-12 bell or 34T-12 horn (will provide 85dB for UL985 and NFPA 72 requirements; other Listed compatible devices with a voltage range of 11.8 to 12.4 V nominal or better may be used) is required for this application and must be installed inside the protected area.
- The standard control enclosure can be used.
- At least one DS7447 or DS7445 Keypad must be used.
- Four-wire detectors must be used with Listed power supervision devices. A compatible Listed 4-wire detector is the Detection Systems, Inc. DS250 in an MB4W base. A compatible Listed EOL relay is the Detection Systems, Inc. EOL200.
- All zones must be used with the EOL resistor (P/N 25899), provided.

A. Report Programming:

- Fire Zone Report must be programmed.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.

B. Timer Programming:

- Bell Cutoff Times (Program Address 010, digits 10-15) must be programmed for not less than 4 minutes.

C. Zone Programming:

- Fire zones must be programmed for alarm on short, trouble on open, not be cross-zoned or be part of custom arming.

D. Alarm Output Programming:

- Alarm Output (Program Address 009 digit 1) must be programmed as *0 (A).

E. General Control Programming:

- Program Address 002 must be programmed as: Digits 8 & 9 = 0 (do not allow force arming).

10.3.2 Grade A Household Burglary Alarm

Grade A Household Burglary Alarm using Digital Alarm Communicator Transmitter with local bell. The control must be installed in accordance with UL Standard UL1641.

Required Accessories:

- At least one Wheelock 46T-G10-12 bell or 34T-12 horn (other Listed compatible devices with a voltage range of 11.8 to 12.4 V nominal or better may be used) is required for this application.
- The standard DS7080iP-32 enclosure can be used.

A. Report Programming:

- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.

B. Timer Programming:

- Bell Cutoff Times (Program Address 010, digits 10-15) must be programmed for not less than 4 minutes.
- Entry Delay Timers (Program Address 010, digits 1-6) must be programmed for not longer than 60 seconds.
- Exit Delay Timer (Program Address 010, digits 7-9) must be programmed for not longer than 45 seconds.

C. General Control Programming:

- Program Address 002, digit 3, must be programmed for no swinger shunts (enter 0).
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.
- Cross zoning time programming (Program Address 006) must be set to 000.
- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

D. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

10.3.3 Local Burglary Alarm

The control must be installed in accordance with UL Standards UL681 and UL609 for all grades of service.

A. Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:

- The control must be installed in a Detection Systems' model AE7080CC enclosure with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 10.4).

1. Report Programming:

- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.

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- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.
- Open Report (Program Addresses 011, digit 1, and 078, digits 1 & 2) must be programmed.
- Close Report (Program Addresses 011, digit 1, and 078, digits 3 & 4) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 082, digits 1-4 and 024, all digits) must be programmed.

2. Timer Programming:

- Bell Cutoff Times (Program Address 010, digits 10-15) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Address 010, digits 1-9) must be programmed for not longer than 60 seconds.

3. General Control Programming:

- Program Address 002, digit 2, must be programmed for Closing Ringback and digit 3 must be programmed for no swinger shunts.
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.
- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

4. Zone Programming:

- The Burglar alarm output signal must be steady.

5. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

10.3.4 Police Station Connection

The control must be installed in accordance with UL Standards UL611 and UL681 for all grades of service.

A. Grades AA and A Installations using the Applied Spectrum PAL200 and the DACT

Required Accessories:

- The control must be installed in a Detection Systems' model AE7080CC enclosure with a cover actuated tamper switch installed.
- The Applied Spectrum PAL200.
- The Spectrum PAL200 must be installed within 3 feet of the control and the wiring control must be in conduit.
- The Applied Spectrum PAL200 inputs should be connected to the alarm outputs (the active alarm sounder output may be used).

1. Report Programming:

- Programming shall be enabled to allow all alarm signals to be transmitted via the DACT and PAL200.
- Burglar Zone Reports are not required since the alarms are transmitted over the PAL200.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.
- Open Report (Program Addresses 011, digit 1, and 078, digits 1 & 2) must be programmed.
- Close Report (Program Addresses 011, digit 1, and 078, digits 3 & 4) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 082, digits 1-4, 024 and 025, all digits) must be programmed.

2. Timer Programming:

- Entry, Exit Delay Times (Program Address 010, digits 1-9) must be programmed for not longer than 60 seconds.

3. General Control Programming:

- Program Address 002, digit 2, must be programmed for Closing Ringback and digit 3 must be programmed for no swinger shunts.
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.
- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

4. Zone Programming:

- The Burglar alarm output signal must be steady.

5. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

B. Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:

- The control must be installed in a Detection Systems' model AE7080CC enclosure with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 10.4).

1. Report Programming:

- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.
- Open Report (Program Addresses 011, digit 1, and 078, digits 1 & 2) must be programmed.
- Close Report (Program Addresses 011, digit 1, and 078, digits 3 & 4) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 082, digits 1-4, 024 and 025, all digits) must be programmed.

2. Timer Programming:

- Bell Cutoff Times (Program Address 010, digits 10-15) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Address 010, digits 1-9) must be programmed for not longer than 60 seconds.

3. General Control Programming:

- Program Address 002, digit 2, must be programmed for Closing Ringback and digit 3 must be programmed for no swinger shunts.
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.
- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

4. Zone Programming:

- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

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10.3.5 Central Station Burglary Alarm

The control must be installed in accordance with UL Standards UL611 and UL681 for all grades of service.

A. Grades AA and A Installations using the Applied Spectrum PAL200 and the DACT

Required Accessories:

- The control must be installed in a Detection Systems' model AE7080CC enclosure with a cover actuated tamper switch installed.
- The Applied Spectrum PAL200.
- The Spectrum PAL200 must be installed within 3 feet of the control and the wiring to the control must be in conduit.
- The Applied Spectrum PAL200 inputs should be connected to the alarm outputs (the active alarm sounder output may be used).

1. Report Programming:

- Programming shall be enabled to allow all alarm signals to be transmitted via the DACT and PAL200.
- Burglar Zone Reports are not required since the alarms are transmitted over the PAL200.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.
- Open Report (Program Addresses 011, digit 1, and 078, digits 1 & 2) must be programmed.
- Close Report (Program Addresses 011, digit 1, and 078, digits 3 & 4) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 082, digits 1-4, 024 and 025, all digits) must be programmed.

2. Timer Programming:

- Entry, Exit Delay Times (Program Address 010, digits 1-9) must be programmed for not longer than 60 seconds.

3. General Control Programming:

- Program Address 002, digit 2, must be programmed for Closing Ringback and digit 3 must be programmed for no swinger shunts.
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.
- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

4. Zone Programming:

- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

B. Grade B Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:

- The control must be installed in a Detection Systems' model AE7080CC enclosure with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 10.4).

1. Report Programming:

- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.
- Open Report (Program Addresses 011, digit 1, and 078, digits 1 & 2) must be programmed.
- Close Report (Program Addresses 011, digit 1, and 078, digits 3 & 4) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 082, digits 1-4, 024 and 025, all digits) must be programmed.

2. Timer Programming:

- Bell Cutoff Times (Program Address 010, digits 10-15) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Address 010, digits 1-9) must be programmed for not longer than 60 seconds.

3. General Control Programming:

- Program Address 002, digit 2, must be programmed for Closing Ringback and digit 3 must be programmed for no swinger shunts.
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.
- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

4. Zone Programming:

- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

C. Grade C Installations using Digital Alarm Communicator Transmitter only

Required Accessories:

- The control must be installed in a Detection Systems' model AE7080CC enclosure with a cover actuated tamper switch installed.

1. Report Programming:

- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 079, digits 1 & 2) must be programmed.
- AC Failure Report (Program Address 079, digits 5 & 6) must be programmed.
- Open Report (Program Addresses 011, digit 1, and 078, digits 1 & 2) must be programmed.
- Close Report (Program Addresses 011, digit 1, and 078, digits 3 & 4) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 082, digits 1-4, 024 and 025, all digits) must be programmed.

2. Timer Programming:

- Entry, Exit Delay Times (Program Address 010, digits 1-9) must be programmed for not longer than 60 seconds.

3. General Control Programming:

- Program Address 002, digit 2, must be programmed for Closing Ringback and digit 3 must be programmed for no swinger shunts.
- Program Address 002, Force Arming Limit, must be programmed as: digits 8 & 9 = 0.

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- Program Address 008, digit 2, must be programmed for the Commercial mode (digit 2 = 0).

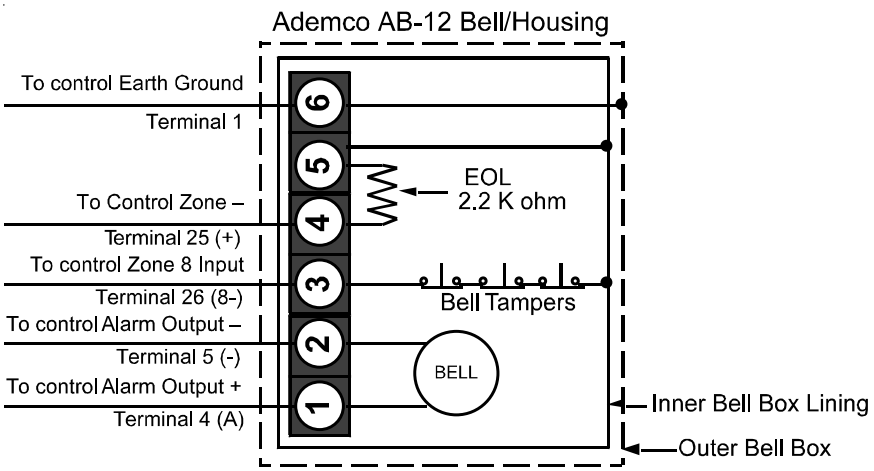
4. Zone Programming:

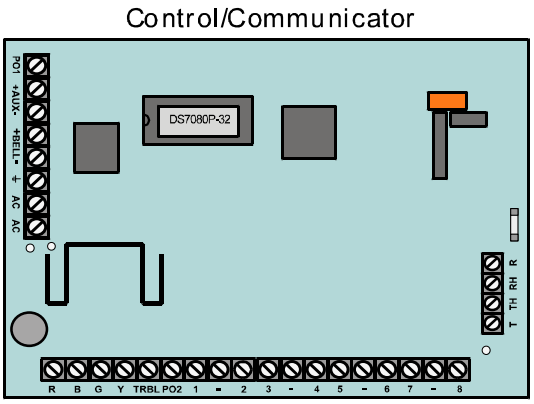
- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:

- Alarm Output, Program Address 009, digit 1 must be programmed as *0 (A).

10.4 Using the Ademco AB-12 Bell/Housing





1) Disconnect the wire jumper from Terminal 4 to the inner housing of the Bell Box.
2) Connect wiring between the control and Bell Box as shown above.
3) Program Zone 8 as a 24-hour zone. (Program Address 030, digit 8, must be programmed as 2).

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11.0 Report Programming Suggested Values

11.1 Personal Dialing and Pager Format

This is a 2 pulse per second (PPS) 0/2 (no account code/2 report event digits) format intended for manual reception, i.e. the panel will call a phone number where a person is expected to answer. After a call is made, the panel will start sending the first report. If the report was a "Communicator Test" and Program Address 082 had a value of 00850000 the person answering the phone will hear 8 pulses followed by a 1 second delay, then 5 pulses followed by a 3 second delay. This sequence will repeat for 60 seconds per call. After 60 seconds the panel will hang up and call again making a total of three calls of 60 seconds duration each. After three calls, the panel considers this a successful transmission of one report. If any reports still remain to be sent, they will be sent in the same manner.

A way to expedite this report process would be to provide an acknowledge to the panel that the report was heard and understood by the receiving party. When an acknowledge is provided, the panel will start sending the next report or hang up if no reports remain. To provide an acknowledge, press the 1 key of the telephone keypad during the 3 second delay of the report transmission. This "Acknowledge Feature" is an enhancement that will allow the panel to send all reports in one call.

It is recommended that the reporting values for this format be the same as the Pager Format.

11.2 Pager Format

The Pager format allows the control panel to dial a digital pager and leave a numeric message which includes an account ID and report type. The telephone number is dialed when a report is available. At the completion of the telephone dialing, a fixed time delay equal to 10 seconds occurs. This delay allows time to connect with the pager service, while skipping over any voice announcement. When the delay has ended, the numeric message is sent. This message includes the account number followed by up to 5 reports. If a delay time greater than 10 seconds is required, increments of 3 seconds can be added by programming the "*3" character (3 second delay) at the end of the phone number in Address 017 or 019.

For example, if you call pager number 123-4567 and it takes 20 seconds after you finished dialing before you are allowed to enter the message, the following digits should be programmed in Address 017: 1 2 3 4 5 6 7 *3 *3 *3 *3. This will give you an overall delay of 22 seconds.

NOTE Some paging systems do not have a voice announcement and expect data entry within the first three to five seconds. Due to the built in 10 second communicator delay, the paging system may hang up before the reports are sent. If this problem occurs, contact your pager provider about adding a voice announcement or a delay.

NOTE For Pager format, it is not advisable to use the HEX character values (*0 = A, *1 = B, *2 = C, *3 = D, *4 = E, *5 = F) in the Report Programming Addresses 054-082 and 117-123 or as part of the Account Codes (Addresses 013 and 014). These characters could cause unpredictable results when sent to a pager system that only expects numeric characters between 0-9. This is the reason that this format will not allow an associated user number with an open and close report. If using a remote programming program, such as WDSRP, do not use zero (0) as a reporting or account code digit as the remote programmer programs zero (0) as *0 (A).

NOTE The Pager format is an open-loop format which has no acknowledge tone. There is no indication at the control panel that the signal has been sent. Therefore, the Pager format is not recommended as the primary communication method.

For Additional Information, see Programming Addresses 013-014, 054-082 and 117-123.

The following page has recommended programming values for Addresses 054-082 and 117-123 when using the Pager format.

If sending reports to both a pager and to a central station, ***Do Not*** use a zero (0) as the reporting digit as it will disable the report to the central station.

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Personal Dialing and Pager Format (suggested values)

	REPORT	RESTORAL	TROUBLE	BYPASS	BYPASS RESTORAL
ZONE 1	1 1	2 1	4 1	3 1	5 1
ZONE 2	1 2	2 2	4 2	3 2	5 2
ZONE 3	1 3	2 3	4 3	3 3	5 3
ZONE 4	1 4	2 4	4 4	3 4	5 4
ZONE 5	1 5	2 5	4 5	3 5	5 5
ZONE 6	1 6	2 6	4 6	3 6	5 6
ZONE 7	1 7	2 7	4 7	3 7	5 7
ZONE 8	1 8	2 8	4 8	3 8	5 8
LOW BATTERY	6 6	7 6			
AC FAIL	6 1	7 1			
SYSTEM TROUBLE	6 2	7 2			
SYSTEM TEST	6 5	7 5			
KEYPAD FIRE	9 9	9 1			

	REPORT
OPEN	8 1
CLOSE	8 2
PARTIAL CLOSE	8 3
FIRST OPEN AFTER ALARM	8 4
AUTOMATIC COMM. TEST	8 5
MANUAL COMM. TEST	8 6
EXIT ERROR	8 7
RECENT CLOSING	8 8

	REPORT SUCCESSFUL	REPORT UNSUCCESSFUL
REMOTE PROGRAM	6 3	7 3
LOCAL PROGRAM	6 4	7 4
KEYPAD EMERGENCY	9 2	
KEYPAD PANIC	9 3	
DURESS	9 4	

4/2 Format (suggested values)

	REPORT	RESTORAL	TROUBLE	BYPASS	BYPASS RESTORAL
ZONE 1	A 1	2 1	6 1	D 1	E 1
ZONE 2	A 2	2 2	6 2	D 2	E 2
ZONE 3	A 3	2 3	6 3	D 3	E 3
ZONE 4	A 4	2 4	6 4	D 4	E 4
ZONE 5	A 5	2 5	6 5	D 5	E 5
ZONE 6	A 6	2 6	6 6	D 6	E 6
ZONE 7	A 7	2 7	6 7	D 7	E 7
ZONE 8	A 8	2 8	6 8	D 8	E 8
LOW BATTERY	F 6	E 9			
AC FAIL	F 1	E A			
SYSTEM TROUBLE	F 2	E D			
SYSTEM TEST	F 5	E E			
KEYPAD FIRE	A A	2 A			

	REPORT
OPEN	B F
CLOSE	C F
PARTIAL CLOSE	4 F
FIRST OPEN AFTER ALARM	3 8
AUTOMATIC COMM. TEST	3 A
MANUAL COMM. TEST	8 5
EXIT ERROR	8 6
RECENT CLOSING	8 7

	REPORT SUCCESSFUL	REPORT UNSUCCESSFUL
REMOTE PROGRAM	6 3	7 3
LOCAL PROGRAM	6 4	7 4
KEYPAD EMERGENCY	9 2	
KEYPAD PANIC	9 3	
DURESS	9 4	

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11.3 Suggested Values for BFSK and other Pulse Formats

For Additional Information, see Programming Addresses 054-082 and 117-123.

Reports with Restorals

	Report		Restoral		Trouble	
Zone 1	1	0	E	1	F	1
Zone 2	2	0	E	2	F	2
Zone 3	3	0	E	3	F	3
Zone 4	4	0	E	4	F	4
Zone 5	5	0	E	5	F	5
Zone 6	6	0	E	6	F	6
Zone 7	7	0	E	7	F	7
Zone 8	8	0	E	8	F	8
Low Battery	F	9	E	9		
AC Failure	F	A	E	A		
System Trouble	F	D	E	D		
Keypad Fire	0	0	0	0		
Keypad Emergency	0	0	0	0		
Keypad Panic	9	0	0	0		

Reports without Restorals

	Report	
Open	B	F
Close	C	F
Partial Close	C	F
First Open after Alarm	D	F
Automatic Comm. Test	E	E

	Report Successful		Report Unsuccessful	
Remote Program	E	F	F	F
Local Program	E	F	F	F

	Report	
Duress	A	0

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12.0 Report Programming Values Sent

12.1 SIA Format

SIA reporting allows the installer to select the type of event each report will send to the central station. For example, if a burglary zone is used as a 24 hour panic zone, it can now report as a PA (panic alarm) when using the SIA format.

The event type is programmed in the extended digit of the report (Addresses **054-082 and 117-123**). To activate a report when using the SIA format, place a "1" in the first reporting digit. To select the type of event for this report, place one of the following values in the second digit.

Data Digit 2 value	SIA Report	Explanation
1	PA	Panic Alarm
2	PR	Panic Restore
3	QA	Emergency Alarm
4	QR	Emergency Restore
5	TA	Tamper Alarm
6	TR	Tamper Restore
7	UA	Untyped Zone Alarm
8	UR	Untyped Zone Restore
9	UT	Untyped Zone Trouble
*0	UJ	Untyped Trouble Restore
*1	YP	Power Supply Trouble
*2	YQ	Power Supply Restore
*3	YX	Service Required

Reports	SIA event code		SIA data field
Burglary alarm for a zone	B	A	Zone Number
Fire alarm for a zone	F	A	Zone Number
Keypad fire (A)	F	A	000
Keypad fire restoral (A)	F	R	000
Keypad emergency (1, 3, or B)	Q	A	None
Keypad panic (*, #, or C)	P	A	None
Burglary restoral for a zone	B	R	Zone Number
Fire restoral for a zone	F	R	Zone Number
Burglary trouble for a zone	B	T	Zone Number
Fire trouble for a zone	F	T	Zone Number
Burglary trouble restoral for a zone	B	J	Zone Number
Fire trouble restoral for a zone	F	J	Zone Number
Open report	O	P	User #
Close report	C	L	User #
Duress report	H	A	000
Partial close report	C	G	User #
First open after alarm (cancel) report	O	R	None
Low battery	Y	T	None
Low battery restoral	Y	R	None
AC failure	A	T	None
AC failure restoral	A	R	None
Automatic Comm. test report	R	P	None
Manual Comm. test report	R	X	None
Remote programming successful report	R	S	None
Remote programming failure report	R	U	None
Local programming successful report	Y	G	None
Local programming failure report	Y	F	None
Unspecified system trouble	U	T	None
Unspecified system trouble restoral	U	J	None
Aux. power fault report	Y	P	None
Aux. power restoral	Y	Q	None
Exit error report	E	E	None
Recent closing report	C	R	None
System test start report	T	S	None
System test end report	T	E	None
EEPROM checksum failure or keypad supervision failure report	E	T	None
EEPROM checksum restoral or keypad supervision restoral	E	R	None
EX-8 Module Missing Report	E	T	Module Address
EX-8 Module Missing Restoral	E	R	Module Address
EX-8 Module Tamper Report	E	X	Module Address
EX-8 Module Tamper Restoral	E	R	Module Address
EX-8 Module Fault Report	Y	P	Module Address
EX-8 Module Fault Restoral	Y	Q	Module Address
Octal Relay Missing Report	E	T	Relay Address
Octal Relay Missing Restoral	E	R	Relay Address
Keypad Tamper Report	E	X	Option Bus Address
Keypad Tamper Restoral	E	R	None
Burglar Zone Bypass Report	B	B	Zone Number
Burglar Zone Bypass Restoral	B	U	Zone Number
Fire Zone Bypass Report	F	B	Zone Number
Fire Zone Bypass Restoral	F	U	Zone Number
Communication Fail	Y	C	None
Communication Restore	Y	K	None

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12.2 Contact ID Format Values Sent

For Additional Information, see Programming Addresses 054-082 and 117-123.

REPORTS	CID EVENT CODE	CID DATA FIELD
Burglary alarm for a zone	130	Zone Number
Fire alarm for a zone	110	Zone Number
Keypad fire	110	000
Keypad fire restoral	110 Restoral	000
Keypad emergency	122	None
Keypad panic	123	None
Burglary restoral for a zone	130 Restoral	Zone Number
Fire restoral for a zone	110 Restoral	Zone Number
Burglary trouble for a zone	370	Zone Number
Fire trouble for a zone	373	Zone Number
Burglary trouble restoral for a zone	370 Restoral	Zone Number
Fire trouble restoral for a zone	373 Restoral	Zone Number
Open report	401	User #
Close report	401	User #
Duress report	121	000
Partial close report	408	User #
First open after alarm (cancel) report	406	User #
Low battery	302	None
Low battery restoral	302 Restoral	None
AC failure	301	None
AC failure restoral	301 Restoral	None
System normal test report	602	None
Communicator test report	601	None
Remote programming successful report	412	None
Remote programming failure report	413	None
Local programming successful report	306	None
Local programming failure report	306 Restoral	None

REPORTS	CID EVENT CODE	
Exit error report	134	None
Recent closing report	405	None
System test start report	607	None
System test end report	607 Restoral	None
Unspecified system trouble	300	None
Unspecified system trouble restoral	300 Restoral	None
Bypass for a burglary zone	573	Zone Number
Bypass for a fire zone	571	Zone Number
Bypass restore for a burglary zone	573 Restoral	Zone Number
Bypass restore for a fire zone	571 Restoral	Zone Number
Communicator trouble	354	None
Communicator trouble restore	354 Restoral	None
EX-8 Module Missing Report	333	Module Address
EX-8 Module Missing Restoral	333 Restoral	Module Address
EX-8 Module Tamper Report	341	Module Address
EX-8 Module Tamper Restoral	341 Restoral	Module Address
EX-8 Module Fault Report	343	Module Address
EX-8 Module Fault Restoral	343 Restoral	Module Address
Octal Relay Missing Report	330	Address
Octal Relay Missing Restoral	330 Restoral	Address
Keypad Tamper Report	341	Address
Keypad Tamper Restoral	341 Restoral	Address
Keypad Missing	330	Keypad Address
Keypad Missing Restoral	330 Restoral	Keypad Address

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12.3 High Speed 4/9 Format

For Additional Information, see Programming Addresses 054-082 and 117-123.

Reports	Event Data 1 2 3 4 5 6 7 8	Event Type	Note:
Burglary alarm for a zone	1 5 5 5 5 5 5 5	7	Zone 1 has a new alarm.
Fire alarm for a zone	1 5 5 5 5 5 5 5	7	Zone 1 has a new alarm.
Keypad fire (A)	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned.
Keypad fire restoral (A)	3 5 5 5 5 5 5 5	1	This may look the same as Duress on some receivers.
Keypad emergency (1, 3, or B)	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned.
Keypad panic (*, #, or C)	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned.
Burglary restoral for a zone	3 5 5 5 5 5 5 5	7	Zone 1 has been restored.
Fire restoral for a zone	3 5 5 5 5 5 5 5	7	Zone 1 has been restored.
Burglary trouble for a zone	1 5 5 5 5 5 5 5	5	Zone 1 is reporting a trouble condition.
Fire trouble for a zone	1 5 5 5 5 5 5 5	5	Zone 1 is reporting a trouble condition.
Burglary trouble restoral for a zone	3 5 5 5 5 5 5 5	5	Zone 1 is reporting a restoral for a trouble condition.
Fire trouble restoral for a zone	3 5 5 5 5 5 5 5	5	Zone 1 is reporting a restoral for a trouble condition.
Open report	8 2 2 2 2 2 2 2	2	User #8 opened. User # reported at event location 1, all others equal 2.
Close report	8 4 4 4 4 4 4 4	4	User #8 opened. User # reported at event location 1, all others equal 4.
Duress report	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned. This report is initiated by opening using a Duress User PIN.
First open after alarm (cancel) report	8 2 2 2 2 2 2 2	2	Same as Open report.
Low battery	5 1 5 5 5 5 5 5	6	System Battery Low, Channel 2 of the System Reports.
Low battery restoral	5 3 5 5 5 5 5 5	6	System Battery Low, Channel 2 of the System Reports.
AC failure	1 5 5 5 5 5 5 5	6	AC Failure, Channel 1 of the System Reports.
AC failure restoral	3 5 5 5 5 5 5 5	6	AC Failure, Channel 1 of the System Reports.
Automatic Comm. test report	5 5 5 5 5 5 5 5	9	Communicator Test with zone alarm information.
Manual Comm. test report	5 5 5 5 5 5 5 5	9	Communicator Test with zone alarm information.

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Reports	Event Data 1 2 3 4 5 6 7 8	Event Type	Note:
Remote programming successful report	5 5 5 5 5 5 3 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Remote programming failure report	5 5 5 5 5 5 1 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Local programming successful report	5 5 5 5 5 5 3 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Local programming failure report	5 5 5 5 5 5 1 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
EEPROM checksum failure or keypad supervision failure report	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
EEPROM checksum failure or keypad supervision restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Aux. power fault report	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Aux. power restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Exit error report	N/A	N/A	Format does not support this report.
Recent closing report	N/A	N/A	Format does not support this report.
System test start report	5 5 5 5 5 5 5 1	6	Walk Test, Channel 8 of the System Reports.
System test end report	5 5 5 5 5 5 5 3	6	Walk Test, Channel 8 of the System Reports.
Unspecified system trouble	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Unspecified system trouble restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.

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13.0 Programming Addresses

	Address
50/60 Hz	002
AC Failure Report	079
AC Failure Report Delay	026
AC Failure Restoral	079
Alarm Bell Cutoff	010
Alarm Output	009
Alarm Output on Manual Arming	003
Allow All Arming Levels	002
Alpha for Zone 1-8	085-092
Alpha for Zone 9-16	093-100
Alpha for Zone 17-24	101-108
Alpha for Zone 25-32	109-116
Arming Mode	008
Arming Warning Control	003
Automatic Comm. Test Report	082
Automatic Comm. Test Report Call-Out Day	024
Automatic Comm. Test Report Call-Out Time	025
Burglary Bell Cutoff	010
Callback	012
Close Report	078
Close Report Control	011
Closing Ringback	002
Cross-zoning Control	005
Cross-zoning Trip Window Time	006
Custom Arming Zones 1-8	046
Custom Arming Zones 9-16	047
Custom Arming Zones 17-24	048
Custom Arming Zones 25-32	049
Day Monitor Trouble Report Control	011
Defaulting the System	124
Dial Attempts	023
Dialer Delay	012
Duress Report	078
Emergency Key Control	028
Emergency Key Report	029
Entry Delay Time 1	010
Entry Delay Time 2	010
Exit Delay Time	010
Exit Error Report	081
Expansion Module	001
Expansion Module Missing Report	117
Expansion Module Missing Restoral	118
Expansion Module Tamper Report	119
Expansion Module Tamper Restoral	120
Expansion Module Fault Report	121
Expansion Module Fault Restoral	122
Fire Bell Cutoff	010
Fire Key Control	028
Fire Key Report	029
First Open After Alarm Report	078
Force Arming Limit	002
General Control	002
Ground Start	009
History Event Control	027
Keypad Assignment	007
Keypad Audible During Exit	003
Keypad Control	008
Keypad Emergency Alarm Report	029
Keypad Fire Alarm Report	029
Keypad Fire Restoral	029
Keypad Language	008
Keypad Panic Report	029
Keyswitch Tamper Report	029
Language Controls	008
Local Program Successful Report	080
Local Program Unsuccessful Report	080
Low Battery Report	079
Low Battery Restoral	079
Manual Comm. Test Report	082
Master Code	004
Octal Relay Control	123
Octal Relay Missing Report	123
Octal Relay Missing Restoral	123
Open Report	078
Open Report Control	011
Panic Key Control	028
Panic Key Report	029
Partial Close Report	078
Partition 1 Account Codes	013
Partition 1 Alpha	083
Partition 2 Account Codes	014
Partition 2 Alpha	084
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Phone Answer Rings - Armed	012
Phone Answer Rings - Disarmed	012
Phone Controls	012
Phone #1	017
Phone #1 Format	015
Phone #2	019
Phone #2 Format	016
Phone #3	021
PIN Length	003
Programmable Output 1	009
Programmable Output 2	009
Programmer's Code	004
Recent Closing Report	081
Remote Program Successful Report	080
Remote Program Unsuccessful Report	080
Remote Programmer Call-Out Day	024
Remote Programmer Call-Out Time	025
Remote Programmer Phone	021
Siren on Comm. Failure	002
System in Test Report	082
System in Test Restoral	082
System Trouble Report	081
System Trouble Restoral	081
Swinger Shunt	002
Test Report	082
Tone/Pulse	012
Trip Window	006
Trouble Zone Mode	003
WDSRP Baud Rate	012
Zone Action Zones 1-8	034
Zone Action Zones 9-16	035
Zone Action Zones 17-24	036
Zone Action Zones 25-32	037
Zone Alarm Report Zones 1-8	054
Zone Alarm Report Zones 9-16	055
Zone Alarm Report Zones 17-24	056
Zone Alarm Report Zones 25-32	057
Zone Alarm Restoral Zones 1-8	058
Zone Alarm Restoral Zones 9-16	059
Zone Alarm Restoral Zones 17-24	060
Zone Alarm Restoral Zones 25-32	061
Zone Bypass Zones 1-8	042
Zone Bypass Zones 9-16	043
Zone Bypass Zones 17-24	044
Zone Bypass Zones 25-32	045
Zone Bypass Report Zones 1-8	070
Zone Bypass Report Zones 9-16	071
Zone Bypass Report Zones 17-24	072
Zone Bypass Report Zones 25-32	073
Zone Bypass Restoral Report Zones 1-8	074
Zone Bypass Restoral Report Zones 9-16	075
Zone Bypass Restoral Report Zones 17-24	076
Zone Bypass Restoral Report Zones 25-32	077
Zone Output Zones 1-8	038
Zone Output Zones 9-16	039
Zone Output Zones 17-24	040
Zone Output Zones 25-32	041
Zone Partitioning Assignment Zones 1-8	050
Zone Partitioning Assignment Zones 9-16	051
Zone Partitioning Assignment Zones 17-24	052
Zone Partitioning Assignment Zones 25-32	053
Zone Restore Control	002
Zone Trouble Report Zones 1-8	062
Zone Trouble Report Zones 9-16	063
Zone Trouble Report Zones 17-24	064
Zone Trouble Report Zones 25-32	065
Zone Trouble Restoral Zones 1-8	066
Zone Trouble Restoral Zones 9-16	067
Zone Trouble Restoral Zones 17-24	068
Zone Trouble Restoral Zones 25-32	069
Zone Type Zones 1-8	030
Zone Type Zones 9-16	031
Zone Type Zones 17-24	032
Zone Type Zones 25-32	033

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14.0 Troubleshooting Guide

#87 Display **"AC Power Failure"**	1. Not enough AC voltage or current load too great for transformer. 2. AC not present. 3. No AC out of transformer.	1. Make sure proper transformer is used (see AC Input note in Section 3.0). 2. Make sure panel is not connected to a switched outlet that has been turned off. 3. Blown transformer fuse. Replace transformer. 4. Load too great for transformer. Place meter on **AC** scale and select the correct setting for **A** or **mA.** Place meter wires in correct position for **A** or **mA** scale. Disconnect one side of the AC and place your meter in series with the transformer and panel. Current draw should not exceed 2 Amps under load.
#87 Display **" Battery Trouble"**	1. Battery low or missing.	1. Replace or reconnect battery. After replacing battery perform a System Reset to see if it will restore. Battery may take some time to charge. Battery should be load tested prior to installation.
Keypad displays **"Control Trouble # 87"** but command does not work.	1. More than one keypad shares the same address. 2. Set for commercial mode. 3. Keypad yellow wire missing or shorted.	1. Correctly set address jumper(s) for that keypad. 2. PIN required before #87. 3. Check keypad wiring
#87 display **"Keypad Fault"**	1. Keypad Yellow, Green or Red wire missing from another keypad **NOTE** This will not display if this is the faulted keypad. It is intended to show status on other keypads.	1. Check keypad wiring.
Keypad displays **"DSI Version 2.00 Copyright 1994"** or alpha locked up.	1. LCD keypad has been programmed as an LED keypad.	1. Get into programmers mode by using programmers code. No visual indication will be given. Press [0] [0] [7] followed by the correct data digits as shown in Address 007; end with [#]. Keypad alpha should restore.
Keypad displays **"Not programmed see install guide"**	1. Address jumper not set on keypad. 2. Not programmed.	1. Set address jumper on keypad. 2. Check Program Address 007.
#87 displays **"Zone Trouble" followed by zone number.** Refer to "**System Faults"** for **Trouble Zone** trouble shooting**.**	1. Zone is in trouble. Normal loop voltages should read as follows: short = 0.00 - 1 Vdc normal = 2.5 - 4.5 Vdc open = 6 - 7 Vdc	1. Check loop wiring. Check loop Programming Address 034-037. **NOTE** Remember N/O devices are alarm on short, trouble on open. N/C devices are alarm on open, trouble on short.
Trouble zone not activating.	Not enabled or wired incorrectly.	Check Program Address 003. Check wiring.

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#87 Displays "**Communicator Err"**	1. Ground Start phone line. (Normal operation referred to as loop start)	1. Requires phone line to short to ground to access dial tone. **NOTE** See address 009. See Section 6.2 Ground Start Timer for connection and explanation on ground start lines.
	2. PBX phone system PBX: where a number needs to be dialed to get dial tone. Example: dial (9) followed by phone number.	2. Check Address 012. Should be programmed as "Dial Tone on all phone numbers".
	3. Phone number incorrect or not programmed.	3. Check Addresses 017-020. PBX systems may require a 3 second delay after dialing the first digit.
	4. No account number or reports are incorrect.	4. Check to make sure account codes are programmed, reports are enabled and routed correctly. Check Addresses 013-014 and 054-082 and 117-123.
	5. Account codes not properly programmed for selected format.	5. Check account number (s) and make sure they are correct for format (s) selected. Fourth digit in a three digit format must be 0.
	6. RJ-31X jack wired incorrectly. Note: Typical voltage with no one on-line is 40-55 Vdc. With some one on line it is typically 5-13 Vdc. TIP is positive.	6. Disconnect house phones at Terminals 28 & 29. If dial tone is not present at panel anymore the street and house lines may be reversed.
	7. Phone line problem	7. Call receiver number with handset to see if receiver picks up.
Automatic Test report not sent.	1. Time and Date not set.	1. Set time and date. (Can be lost due to power loss).
	2. Report not programmed.	2. Check Address 082.
	3. Not programmed to send.	3. Check Address 024 and 025. **NOTE** Make sure panel is communicating normally.
Open / Close reports not sent.	1. Not programmed to send.	1. Check Address 078. Also check Addresses 078, 013, 014, 015 and 016.
	2. Arming system perimeter only or have bypassed or forced armed system.	2. Does not send reports for perimeter arming. Will send open close reports along with trouble for bypass or force armed zones. Address 011.
Keypad Display **"System Fault"** sounder is on or keypad not operating.	1. Keypad wiring error. Green and any other color keypad wire shorted together or green wire cut or missing.	1. Check keypad wiring.
#87 Displays **"EEPROM FAULT"**	1. While in programmers mode lost power.	1. Try to clear by entering and exiting programmers mode.
	2. Internal problem with EEPROM memory.	2. Cycle Panel power.
# 87 Displays **"Ram Fault"** or **"ROM Fault"**	**NOTE** Check EPROM for proper placement, bent, or mis-inserted pins. Do not touch while panel is powered up.	3. If error persists default the panel and reprogram. See Address 124. 4. If error still persists, replace panel.

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#87 Displays **"System Fault" "Trouble Zone Fault"** sounder ***not*** on and keypad ***operating fine.***	1. Trouble zone activated.	**NOTE** With all power removed and after you have grounded yourself, visually check EEPROM for bent or misaligned pins. 1. Check Trouble zone wiring. 2. Check programming in Address 008. **NOTE** This is an unsupervised connection and should only be used as a trouble indication for tamper devices. Differs from actual zone trouble.
Keypad blank. AC and battery power is good.	1. Aux. power shorted. 2. Keypad wiring fault	1. Power down and let stand for a few minutes. Reapply power. Check wiring for fault. 2. Check wiring for fault.
Bypass does not work	1. Zone not programmed for bypass.	1. Check Address 042-045.
Interior zones do not send alarms.	1. Programmed as a Home / Away zone. 2. Zone is cross-zoned with another zone and the other zone has not activated or activated within programmed window. 3. System perimeter armed.	1. You must first violate an entry/exit delay zone during exit delay. 2. Check Addresses 005 and 006. 3. Arm system using ON key.
Chime mode does not work when Zone (s) is faulted.	1. Programmed as an interior zone. 2. Chime mode not on.	1. Chime mode only works for perimeter zones. Also, if the zone has trouble enabled, it will not activate on a trouble condition. Check Address 034-037. 2. Activate chime mode. [PIN] + [7].
Keypad displays **"Ready To Arm"** and can not arm system. "**Entry Error Please Try Again**."	1. Zone programmed as a " Keyswitch On/ Off" 2. Panel in Residential mode. 3. Invalid PIN or does not have authority. 4. A zone is programmed as an invisible zone and is violated.	1. Check Address 034-037. 2. Does not require PIN to arm. 3. Refer to Section 7.4. 4. Find violated zone and restore. To see if an invisible zone is violated enter [PIN] + [#]. Most likely a panic device. Check Address 034-037.
Zone alarm is sent and keypad displays alarm but no output present.	1. Programmed as silent output or the programmable output is not programmed to follow correct parameters. 2. Alarm output or PO 1, 2 wired incorrectly.	1. Check Addresses 038-041 and 009. 2. Check connections on Terminals 4,5,6, and 14, see Section 3.0. Observe polarity. Check field wiring.
Events not logged in history buffer.	1. Not programmed to store those types of events.	1. Check Address 027. Panel can be programmed not to store certain events.
Zone sends trouble signal when disarmed.	1. Programmed as a Day Monitor with trouble report. 2. Zone programmed for trouble.	1. Day Monitor can send a trouble report if desired. See Address 062-065. 2. Check loop wiring. *(see zone trouble)*

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